Coach

Push ▶ for reading content aloud.

Autoplay On

Answer the following questions regarding the **reversible causes of cardiac arrest.**

1 2

Which of the following are the "T" causes of reversible cardiac arrest?

You got it!

- Your Answer | Coronary thrombosis
- Your Answer | Pulmonary thrombosis
- Your Answer | Tension pneumothorax
- Your Answer | Toxins
- Your Answer | Cardiac tamponade

I Know It

CHALLENGE US NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

4 ELEMENTS OF AN INTEGRATED SYSTEM OF CARE

A system is a group of interdependent components that regularly interact to form a whole.

The system
Provides the links for the Chain of Survival
Determines the strength of each link and of the chain
Determines the ultimate outcome
Provides collective support and organization

Healthcare delivery requires structure (eg, people, equipment, education) and processes (eg, policies, protocols, procedures) that when integrated produce a system (eg, programs, organizations, cultures) leading to outcomes (eg, patient safety, quality, satisfaction). This integrated response, known as a **system of care**, comprises all 4 of these elements—**structure, processes, system, and patient outcome**—in a framework of continuous quality improvement.

1 2 NEXT

CHALLENGE US

Self-Assessment

How well do you know this subject? Your learning path will be adjusted accordingly.

ADVANCED BEGINNER

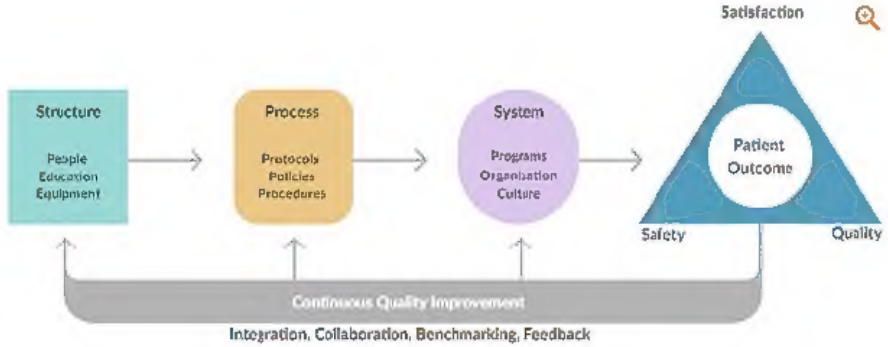
Coach

Push ▶ for reading content aloud.

Autoplay On

4 ELEMENTS OF AN INTEGRATED SYSTEM OF CARE

These systems require individuals and groups to share information so that they can evaluate and improve their system. Leadership and accountability are important components of this team approach. Participants and leaders in systems of care must also assess the performance of each system component; only after this assessment can they effectively intervene to improve care.



PREVIOUS 1 2

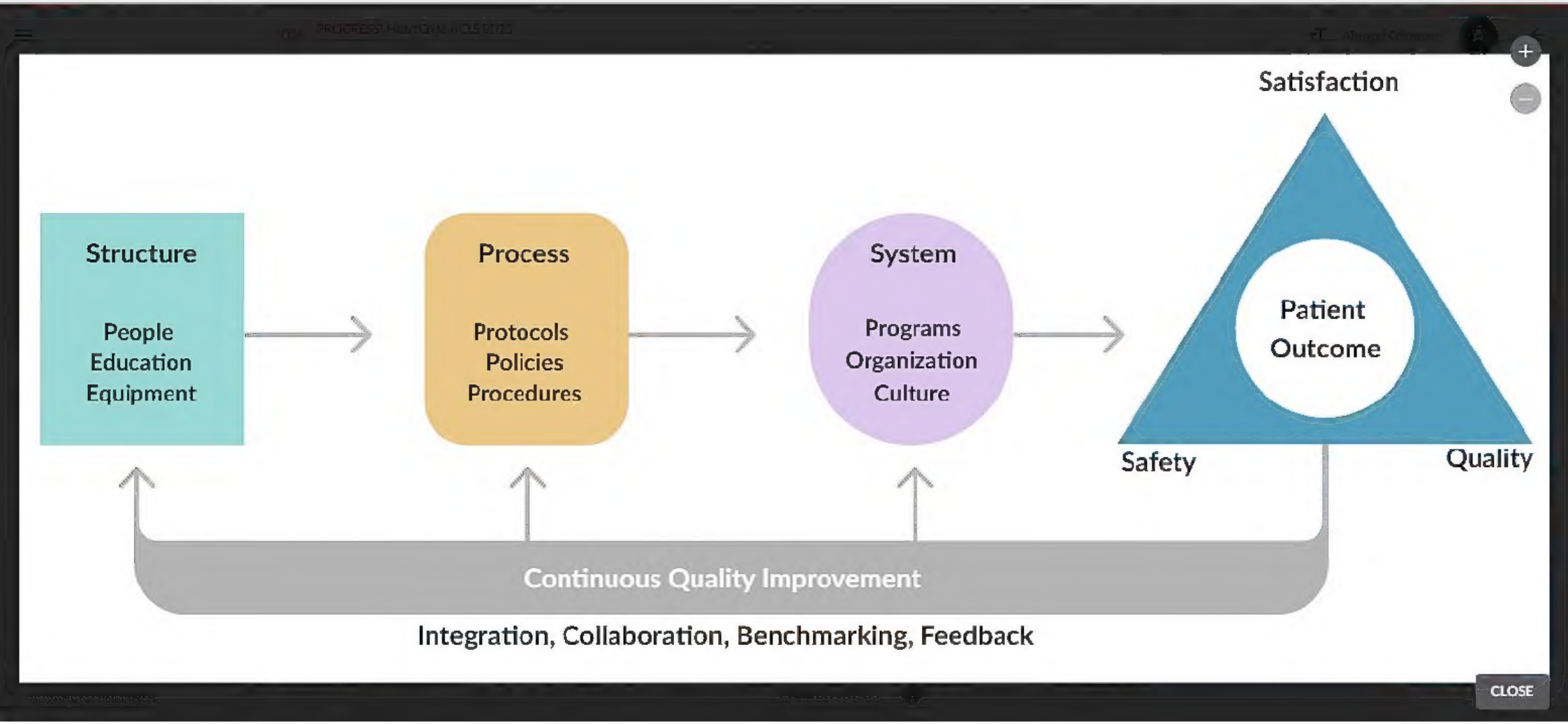
I KNEW | GOT IT NOW | THINK I GOT IT | I DON'T GET IT

CHALLENGE US

Self-Assessment

How well do you know this subject? Your learning path will be adjusted accordingly.

ADVANCED BEGINNER


Satisfaction
Structure
People
Education
Equipment
Process
Protocols
Policies
Procedures
System
Programs
Organization
Culture
Patient
Outcome
Safety
Quality
Continuous Quality Improvement
Integration, Collaboration, Benchmarking, Feedback
CLOSE

Coach

Push ▶ for reading content aloud.

Autoplay On

4 ELEMENTS OF AN INTEGRATED SYSTEM OF CARE

The **continuous quality improvement process** consists of an iterative cycle of

- Systematically evaluating care and outcome
- Creating benchmarks with stakeholder feedback
- Strategically addressing identified deficiencies

I KNEW | GOT IT NOW | THINK I GOT IT | I DON'T GET IT

CHALLENGE US

Self-Assessment

How well do you know this subject? Your learning path will be adjusted accordingly.

ADVANCED BEGINNER

Coach

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Autoplay On

CARDIAC ARREST AND POST-CARDIAC ARREST SYSTEMS OF CARE

Cardiac Arrest and Post–Cardiac Arrest Systems of Care

Successful resuscitation requires integrated, coordinated actions. Experts believe that high survival rates from both in- and out-of-hospital sudden cardiac arrest are possible with strong systems of care.

Several factors have been associated with improved survival in patients with cardiac arrest:

- **Training healthcare providers** to become more knowledgeable about what improves survival rates.
- **Proactive planning and simulation of cardiac arrest** to provide the opportunity for a healthcare provider to practice and improve responding to cardiac arrest.
- Rapidly **recognizing sudden cardiac arrest.**
- Immediately **providing high-quality CPR.**
- **Providing early defibrillation,** as soon as a defibrillator is available.
- Providing goal-directed, time-sensitive **post-cardiac arrest care.**

1 2 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

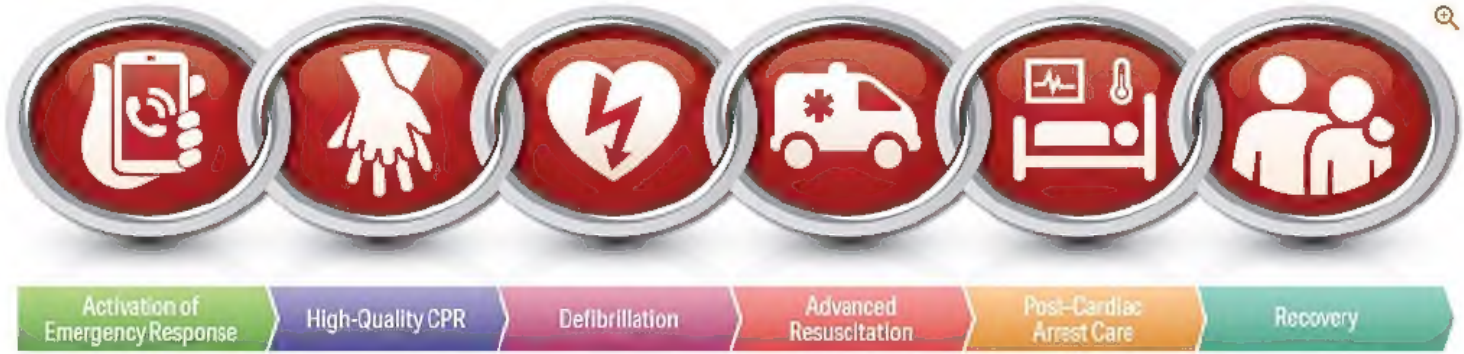
Coach

Push ▶ for reading content aloud.

Autoplay On

CARDIAC ARREST AND POST-CARDIAC ARREST SYSTEMS OF CARE

The links in the system-specific Chains of Survival represent these actions. The **Chain of Survival is a metaphor used to organize and describe the integrated set of time-sensitive coordinated actions necessary to maximize survival.** The use of evidence-based education and implementation strategies can optimize the links in the chain. However, 2 separate chains were created to reflect the differences in the steps needed for response to cardiac arrest **in-hospital** and **out-of-hospital**.



PREVIOUS 1 2

I KNEW | GOT IT NOW | THINK I GOT IT | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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RAPID RESPONSE SYSTEM

The purpose of a rapid response team (RRT) or medical emergency team (MET) is to improve patient outcomes by identifying and treating early clinical deterioration.

Components

The rapid response system has several components:

- Event detection and response triggering arm
- A planned response arm, such as a RRT or MET
- Quality monitoring
- Administrative support

1 2 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

RAPID RESPONSE SYSTEM

Signs of Clinical Deterioration

Some rapid response systems weigh, combine, and score specific physiologic criteria to determine when to act. The **criteria for adult patients** include

- Airway compromise
- Respiratory rate less than 6/min or more than 30/min
- Heart rate less than 40/min or greater than 140/min
- Systolic blood pressure less than 90 mm Hg
- **Symptomatic hypertension**
- Unexpected decrease in level of consciousness
- **Unexplained agitation**
- **Seizure**
- Significant decrease in urine output

I KNEW GOT IT NOW THINK I GOT IT I DON'T GET IT

CHALLENGE US

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Ahmed Othman A

Coach

Learn more here:

Rapid Response System

What are signs of clinical deterioration that would prompt the activation of a rapid response system?

You got it!

Your Answer | Unexplained agitation

Your Answer | Symptomatic hypertension

Your Answer | Seizure

I Know It

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

What is the primary purpose of a rapid response team (RRT) or medical emergency team (MET)?

CHOOSE THE CORRECT ANSWER

To improve patient outcomes by identifying and treating early clinical deterioration

To provide diagnostic consultation to emergency department patients

To provide online consultation to emergency medical services personnel in the field

To improve care for patients admitted to critical care units

I KNOW IT | I KNOW | [illegible] | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

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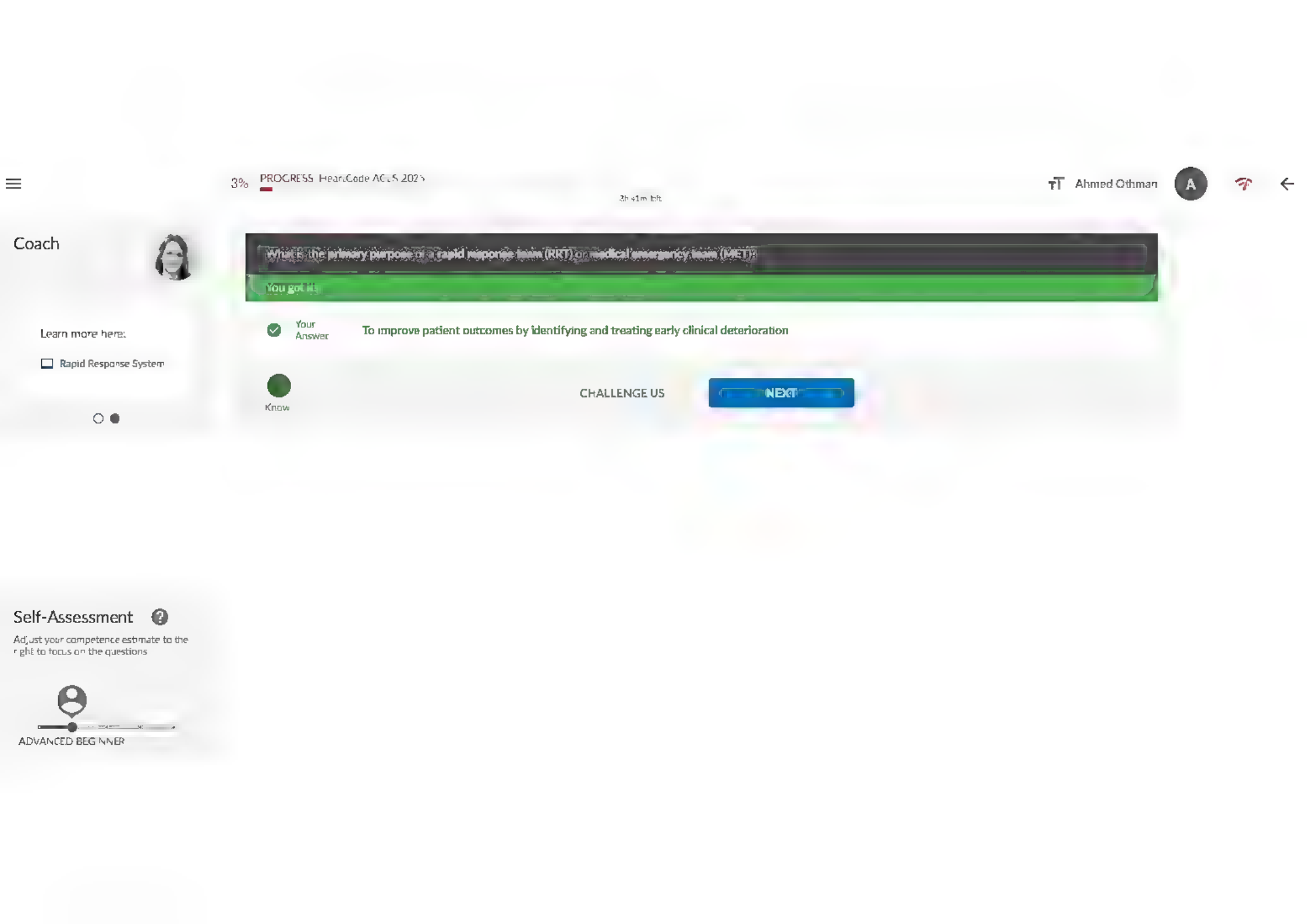
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Ahmed Othman
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Coach
What is the primary purpose of a rapid response team (RRT) or medical emergency team (MET)?
You got it!
Your Answer
To improve patient outcomes by identifying and treating early clinical deterioration
Learn more here:
Rapid Response System
Know
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

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HOW A RAPID RESPONSE SYSTEM HELPS PREVENT IN-HOSPITAL CARDIAC ARREST

Improving IHCA Survival

The best way to improve a patient's chance of survival from an IHCA is to prevent it from happening. **IHCAs are often preceded by changes in patients' vital signs** that are evident with routine monitoring. The prevention approach has required a significant cultural shift within institutions.

Cardiac arrest teams have traditionally focused on responding only after an arrest has occurred, but hospitals have recently begun to expand the focus to include patient safety and prevention of arrest. **Teams that rapidly assess and intervene when patients have abnormal vital signs can decrease the number of IHCAs**, improving rates of morbidity and mortality rather than merely reacting to a catastrophic event.

I KNEW | I GOT IT NOW | [illegible] | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

What happens when teams rapidly [illegible] and intervene when patients have abnormal vital signs?

CHOOSE THE CORRECT ANSWER

The number of out-of-hospital cardiac arrests increases

The number of in-hospital cardiac arrests decreases

Morbid ty and mortality rates are ma nta ned

Morbid ty and mortality rates increase

KNOW IT | I KNOW | [illegible] | NO IDEA

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Self-Assessment

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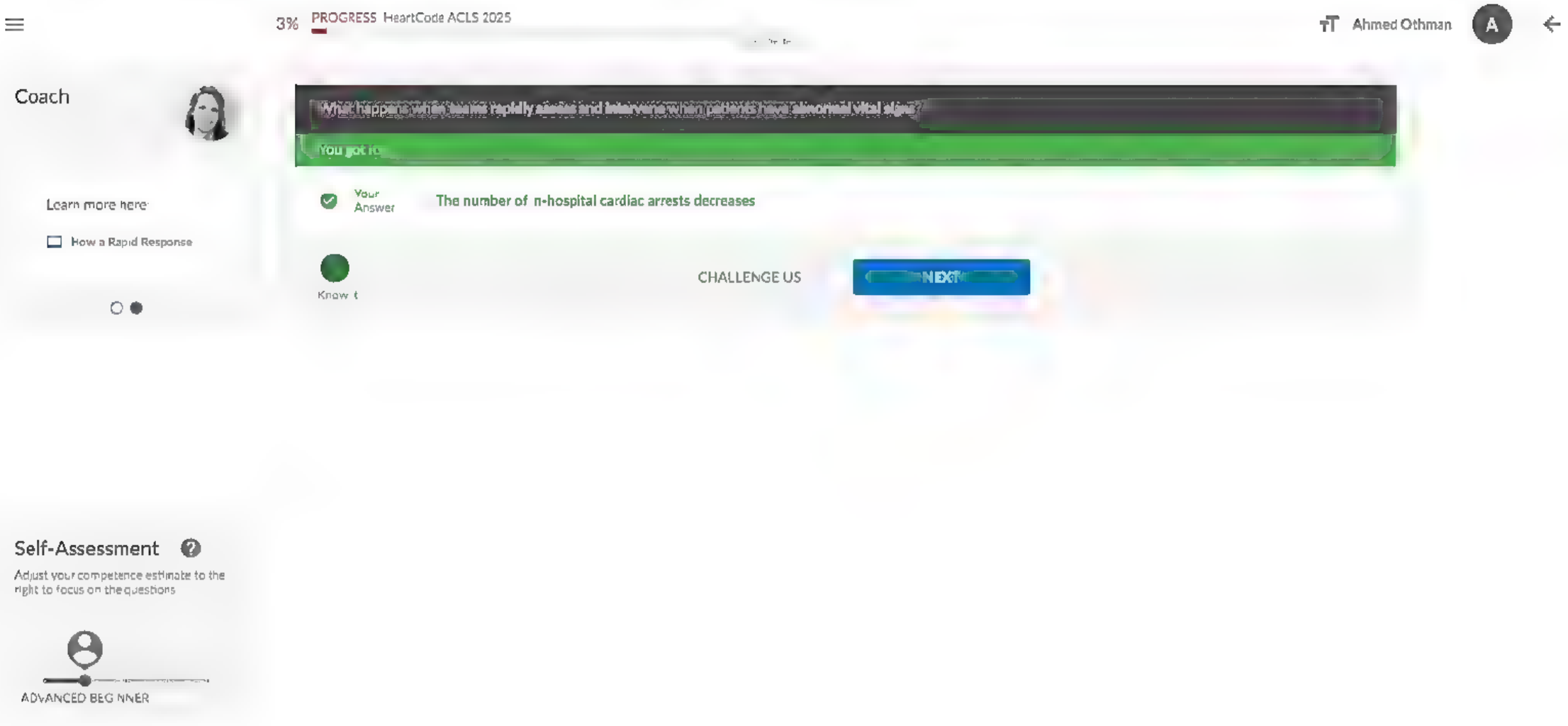
3% PROGRESS HeartCode ACLS 2025
Ahmed Othman
A
Coach
What happens when teams rapidly assess and intervene when patients have abnormal vital signs?
You got it!
Learn more here:
How a Rapid Response
Your Answer
The number of n-hospital cardiac arrests decreases
Know it
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

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IMPACT OF RAPID RESPONSE TEAMS (RRTS) AND MEDICAL EMERGENCY TEAMS (METS)

Benefits

Although the ideal composition of **METs** and **rapid response systems** is not known, many published before-and-after studies have reported a **drop in the rate of cardiac arrests after these teams intervene**. Other documented **benefits of these systems** include

- Decreased unplanned emergency transfers to the ICU
- Decreased ICU and total hospital length of stay
- Reduced postoperative morbidity and mortality rates.
- Improved rates of survival from cardiac arrest.

I KNEW | GOT IT NOW | KIND OF | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

In addition to decreased IHCA, what are some other benefits of implementing a rapid response system?

You got it!

Your Answer — Decreased ICU length of stay

Your Answer — Decrease in total hospital length of stay

Learn more here:

Impact of Rapid Respon...

Think So

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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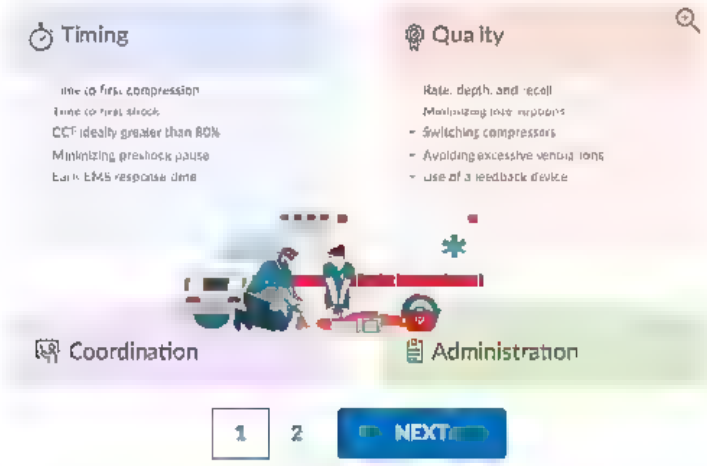
KEY COMPONENTS OF AN EFFECTIVE HIGH PERFORMANCE TEAM

High-performance teams are essential to successful resuscitation attempts. High-performance teams carry out their roles in highly effective manners resulting in superior performance and timing which can translate to improved survival for patients in cardiac arrest. What distinguishes high-performance teams from others is that each team member's a commitment to ensuring the highest-quality performance of the team rather than simply following orders.

To function effectively a high-performance team needs to focus on **timing, quality, coordination, and administration.**



1 2 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Timing

- Time to first compression
- Time to first shock
- CCF ideally greater than 80%
- Minimizing preshock pause
- Early EMS response time

Quality

- Rate, depth, and recoil
- Minimizing interruptions
- Switching compressors
- Avoiding excessive ventilations
- Use of a feedback device

Coordination

Team dynamics: Team members working together, proficient in their roles

Administration

- Leadership
- Measurement
- Continuous quality improvement
- Number of code team members

Coach

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Autoplay On

KEY COMPONENTS OF AN EFFECTIVE HIGH-PERFORMANCE TEAM

High-Performance Team Dynamics

Successful high-performance teams not only have **medical expertise** and **mastery of resuscitation skills** but also demonstrate **effective communication** and **team dynamics.**

One of the measures of a high-performance team is the ability to achieve **specific performance metrics** and a **high chest compression fraction** or CCF. You can only **achieve a high CCF by minimizing pauses during high-quality CPR.** The Resuscitation Outcomes Consortium, or ROC, trials showed that an **11% increase in CCF is roughly equal to a 10% increase in survival.** Pauses typically occur during intubation, rhythm analysis, pulse checks, compressor switches, and defibrillation.

Recommendations

- Hover over the chest

  Whenever compressions are paused, Compressors should **hover over the chest** (not touching it) and **be prepared to resume compressions**

PREVIOUS 1 2

I KNEW I DIDN'T KNOW IN I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud

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KEY COMPONENTS OF AN EFFECTIVE HIGH-PERFORMANCE TEAM

Recommendations

- Hover over the chest
  - Whenever compressions are paused Compressors should hover over the chest (not touching it) and be prepared to resume compressions
- Before pausing compressions
  - Fifteen seconds before pausing compressions at the end of each 2-minute cycle high-performance teams should check for a pulse, precharge the defibrillator and be prepared to deliver a shock in 10 seconds or less
- Switch Compressors
  - Switch Compressors, with the second Compressor coming in from behind the first This allows the second Compressor to have the same view of the team—and in particular, of the AED or defibrillator For seamless transitions, switching between cycles every 2 minutes is best However if a Compressor needs to switch because of fatigue, coordinate the switch to happen as fluidly as possible such as while delivering breaths.

PREVIOUS 1 2

KNEW DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud

Autoplay On

KEY COMPONENTS OF AN EFFECTIVE HIGH-PERFORMANCE TEAM

Fifteen seconds before pausing compressions at the end of each 2-minute cycle h gh-performance teams shou d **check for a pulse**, **precharge the defibrillator** and be **prepared to deliver a shock in 10 seconds or less**

- **Switch Compressors**

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- **Real-time feedback devices**

  It s a **best practice to use real-time feedback devices during CPR** I owever, if a eedback dev ce sn t ava lable a **metronome** can help estab sh the proper rate If your AED or defibrillator doesn't have a metronome, you can **download a metronome app to your mobile device** before the conc sion of th s course

PREVIOUS 1 2

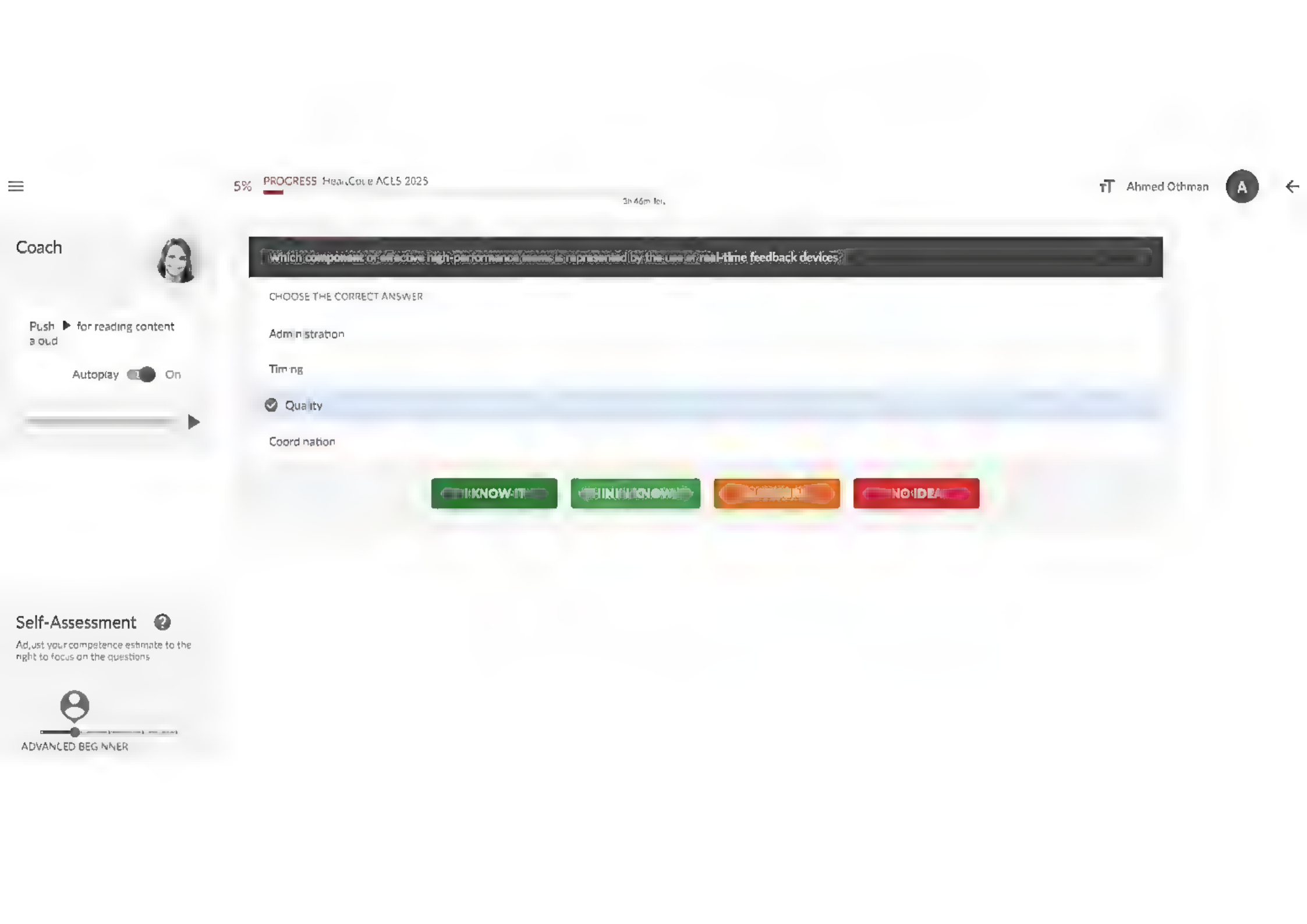
KNEW GOT IT NOW UNSURE I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER


5% PROGRESS HeartCode ACLS 2025
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Ahmed Othman
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Coach
Which component of effective high-performance teams is represented by the use of real-time feedback devices?
CHOOSE THE CORRECT ANSWER
Administration
Timing
Quality
Coordination
I KNOW IT
I DON'T KNOW
NO IDEA
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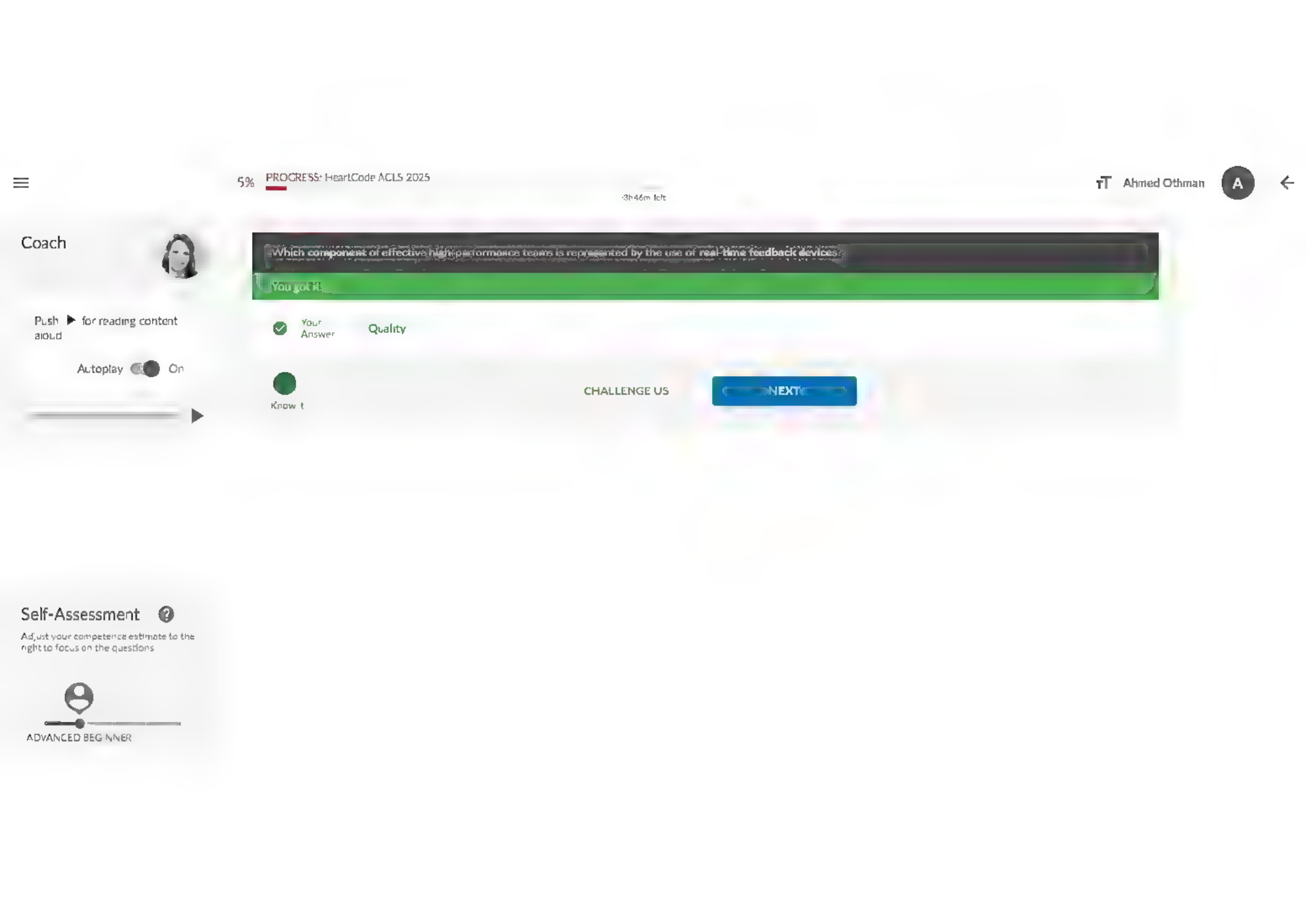
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER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Ahmed Othman
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Coach
Which component of effective high-performance teams is represented by the use of real-time feedback devices?
You got it!
Your Answer
Quality
Push ▶ for reading content aloud
Autoplay On
Know t
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

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Ahmed Othman

Coach

What is the main advantage of effective teamwork?

CHOOSE THE CORRECT ANSWER

Div sion of tasks

Mastery of resuscitation skil s

Immed ate CPR

Early defibrillation

I KNOW IT

I NO I KNOW

NO IDEA

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Self-Assessment

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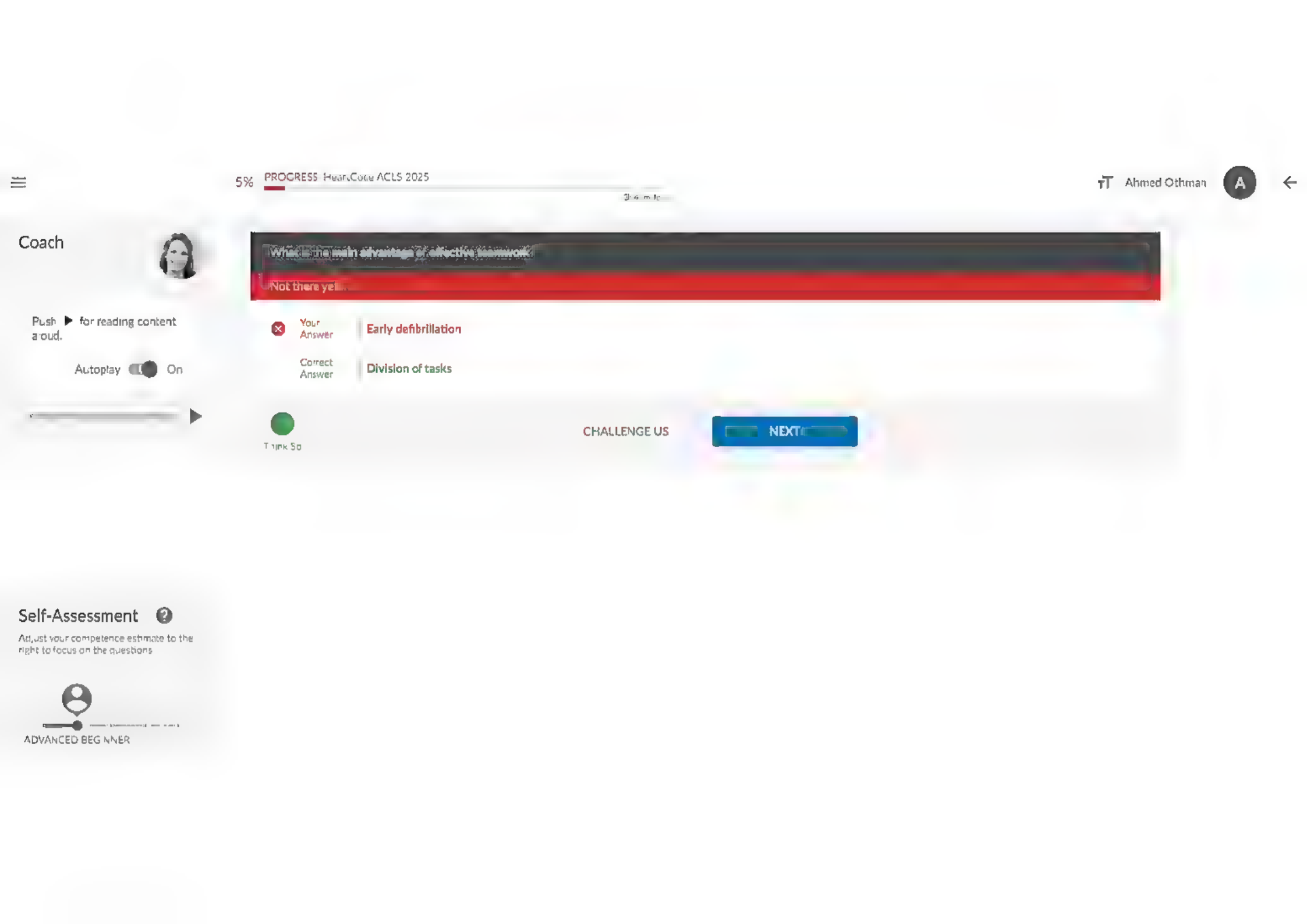
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Coach
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Not there yet
Your Answer
Early defibrillation
Correct Answer
Division of tasks
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

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ROLES OF HIGH-PERFORMANCE TEAM MEMBERS

Team Leader Role

Every high-performance team needs a leader to organize the efforts of the group.

Team Leader

- Organizes the group
- Mon tors nd vidual performance of team members
- Backs up team members
- Models excellent team behavior
- Tra ns and coaches
- Fac litates understanding
- Focuses on comprehens ve patient care
- Temporar y des gnates another team member to take over as Team Leader f an advanced procedure needs to be performed eg. advanced airway p acement).

1 2 3 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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ROLES OF HIGH-PERFORMANCE TEAM MEMBERS

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Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Whereas members of a high-performance team shou d focus on the r individua tasks, the **Team Leader must focus on comprehensive patient care**

1 2 3 NEXT

CHALLENGE US

Coach

Push ▶ for reading content aloud

Autoplay On

ROLES OF HIGH-PERFORMANCE TEAM MEMBERS

Team Member Roles

For a successful resuscitation attempt, high-performance team members must be

- Proficient in performing the skills in their scope of practice
- Clear about role assignments
- Prepared to fulfill their role responsibilities
- Well-practiced in resuscitation skills
- Knowledgeable about the algorithms
- Committed to success

PREVIOUS 1 2 3 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content a oud

Autoplay On

ROLES OF HIGH-PERFORMANCE TEAM MEMBERS

CPR Coach

Many **resuscitation teams** now include the **role of CPR Coach**. The CPR Coach role does not need to be a separate role but can be **integrated into the current responsibilities of the Monitor/Defibrillator**.

The CPR Coach supports performance of **high-quality BLS skills**, allowing the Team Leader to focus on other aspects of clinical care.

Below is a description of **actions the CPR Coach** will take.

- Coordinate initiation of CPR
- Coach team members to improve quality of chest compressions
- Coach team members to improve quality of ventilations
- State guideline targets
- Help minimize length of pauses in compressions

PREVIOUS 1 2 3

I KNEW | I GOT IT NOW | UNSURE | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

6% PROGRESS HeartCode ACLS 2025

Ahmed Othman A

Coach

Which is the best example of a role of the Team Leader?

CHOOSE THE CORRECT ANSWER

Does not overventilate the patient

Models excellent team behavior

Proficient at endotracheal intubation

Performs within scope of practice

KNOW IT | I KNOW | NO IDEA

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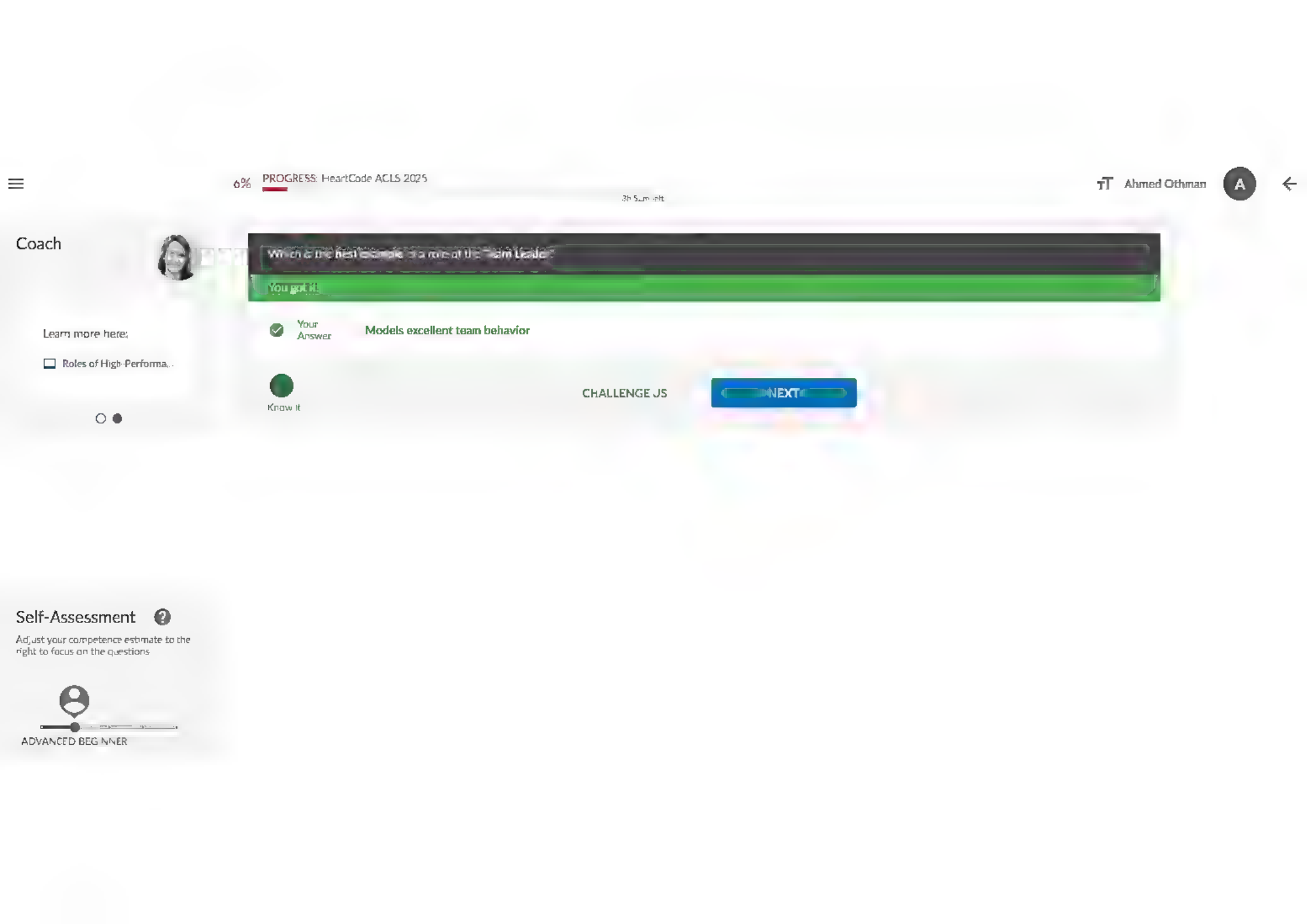
Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER


6% PROGRESS: HeartCode ACLS 2025
Ahmed Othman
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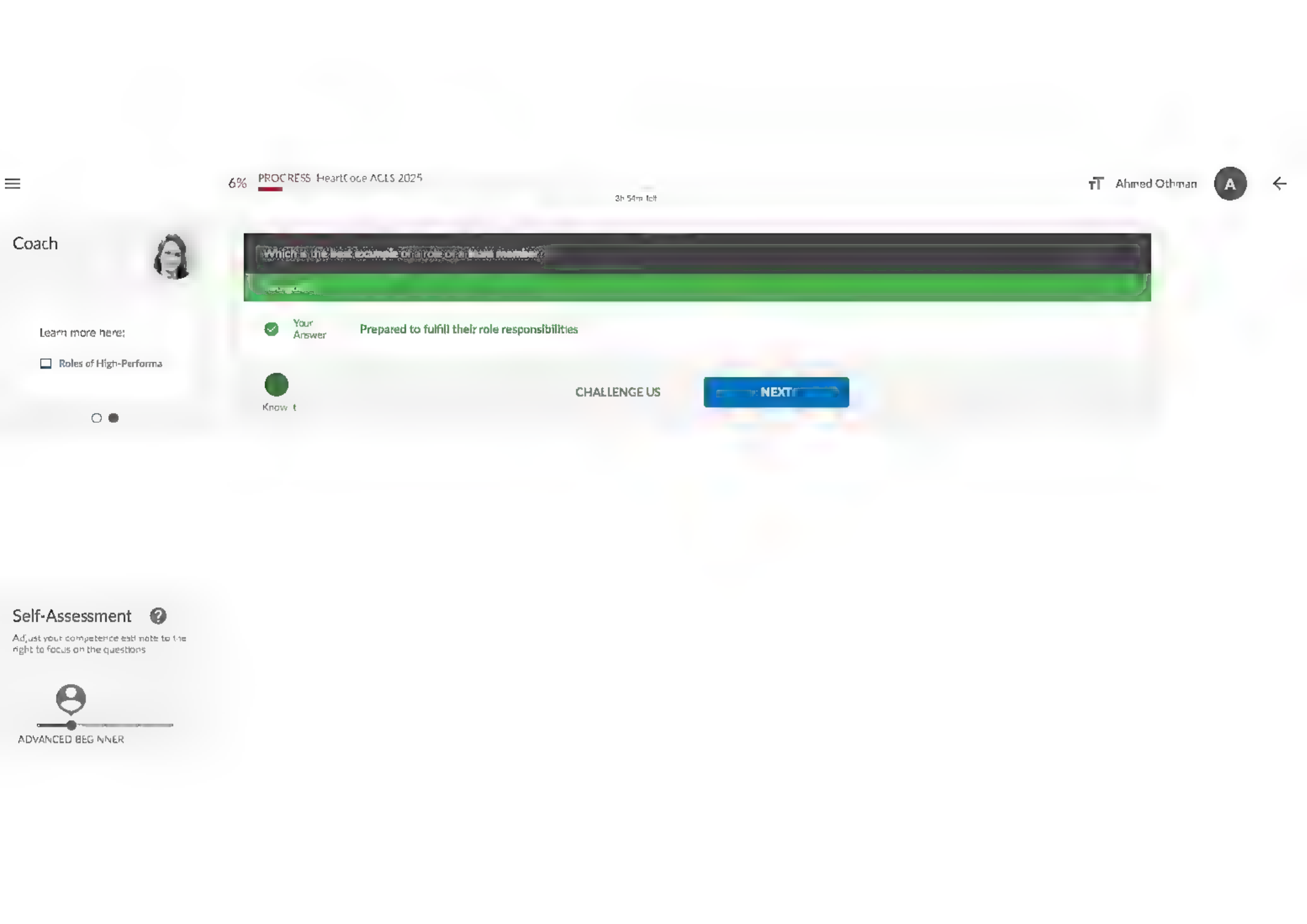
Coach
You got it!
Your Answer
Models excellent team behavior
Learn more here:
Roles of High-Performa...
Know it
CHALLENGE JS
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER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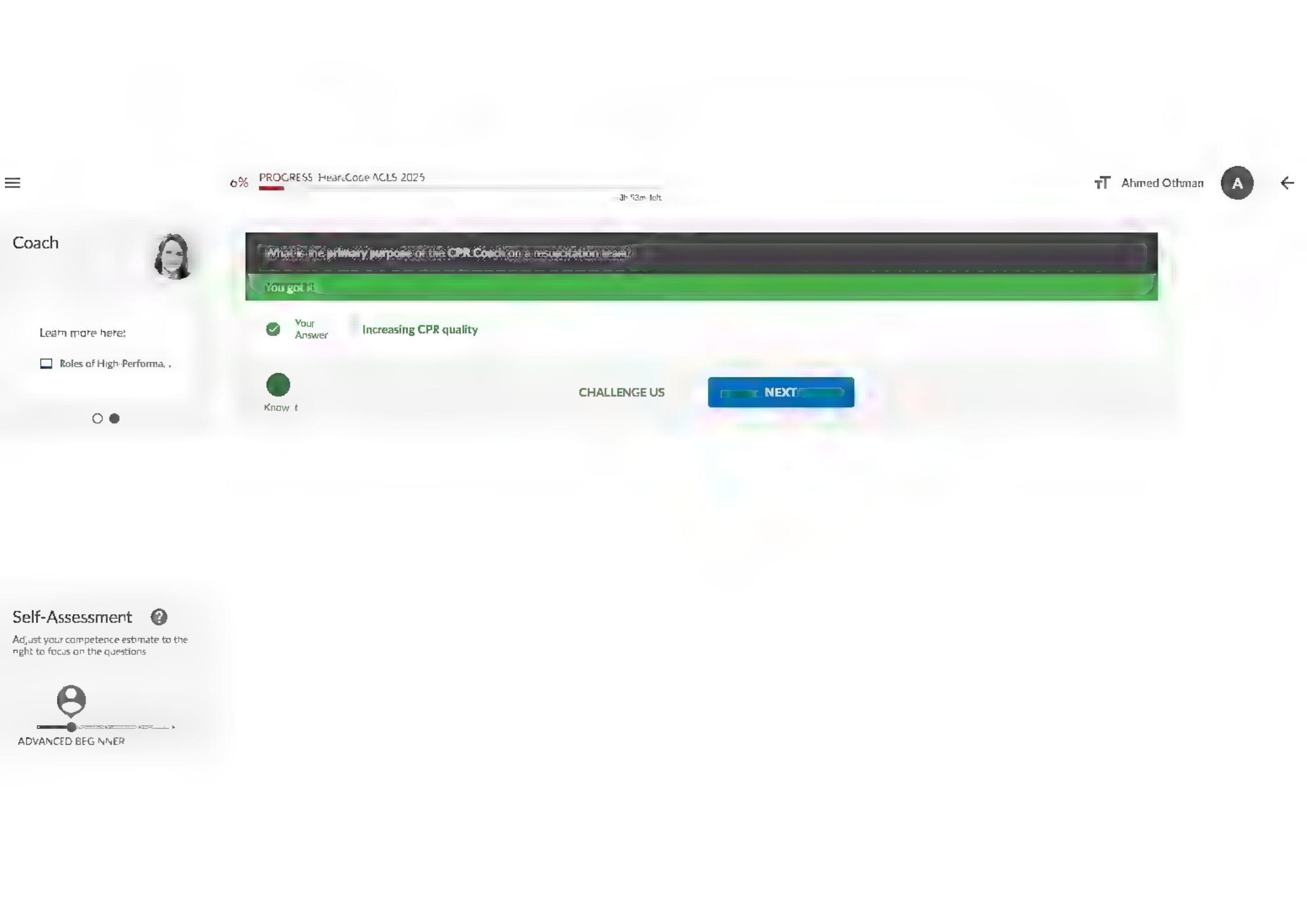
Coach
Learn more here:
Roles of High-Performa
Your Answer
Prepared to fulfill their role responsibilities
CHALLENGE US
NEXT
Know it
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER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Ahmed Othman
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Coach
What is the primary purpose of the CPR Coach on a resuscitation mat?
You got it!
Your Answer
Increasing CPR quality
Learn more here:
Roles of High-Performa...
Know it
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

ELEMENTS OF EFFECTIVE TEAM DYNAMICS

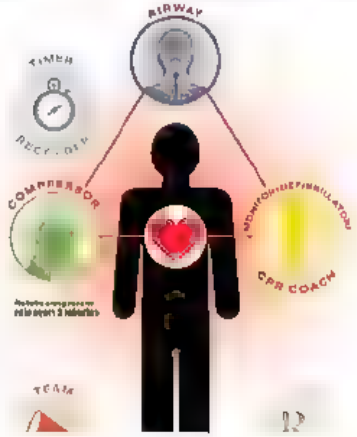
Clear Roles and Responsibilities

Push ▶ for reading content aloud.

Autoplay On

Every member of the team should know his or her role and responsibilities because each team member's role is important to the performance of the team. When fewer than 6 people are present, Team Leaders must prioritize these tasks and assign them to the healthcare providers present

Positions for 6-Person High-Performance Teams



1 2 3 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content a oud

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ELEMENTS OF EFFECTIVE TEAM DYNAMICS

For efficiency the Team Leader must clearly delegate tasks Team members should communicate when they can handle additiona respons bil ties. The Team Leader should encourage team members to participate in leadersh p and not simply follow directions.

Team Member	Task
Team Leader	• C early define all team member roles in the clin ca setting. • Distribute tasks even y to a l available team members who are sure of their responsibilities.
Team Members	• Seek out and perform c early defined tasks appropriate to their ab lities • Ask for a new task or role f an ass gnment is beyond the r level of expertise. • Take only assignments that are w th n their eve of expertise

1 2 3 NEXT

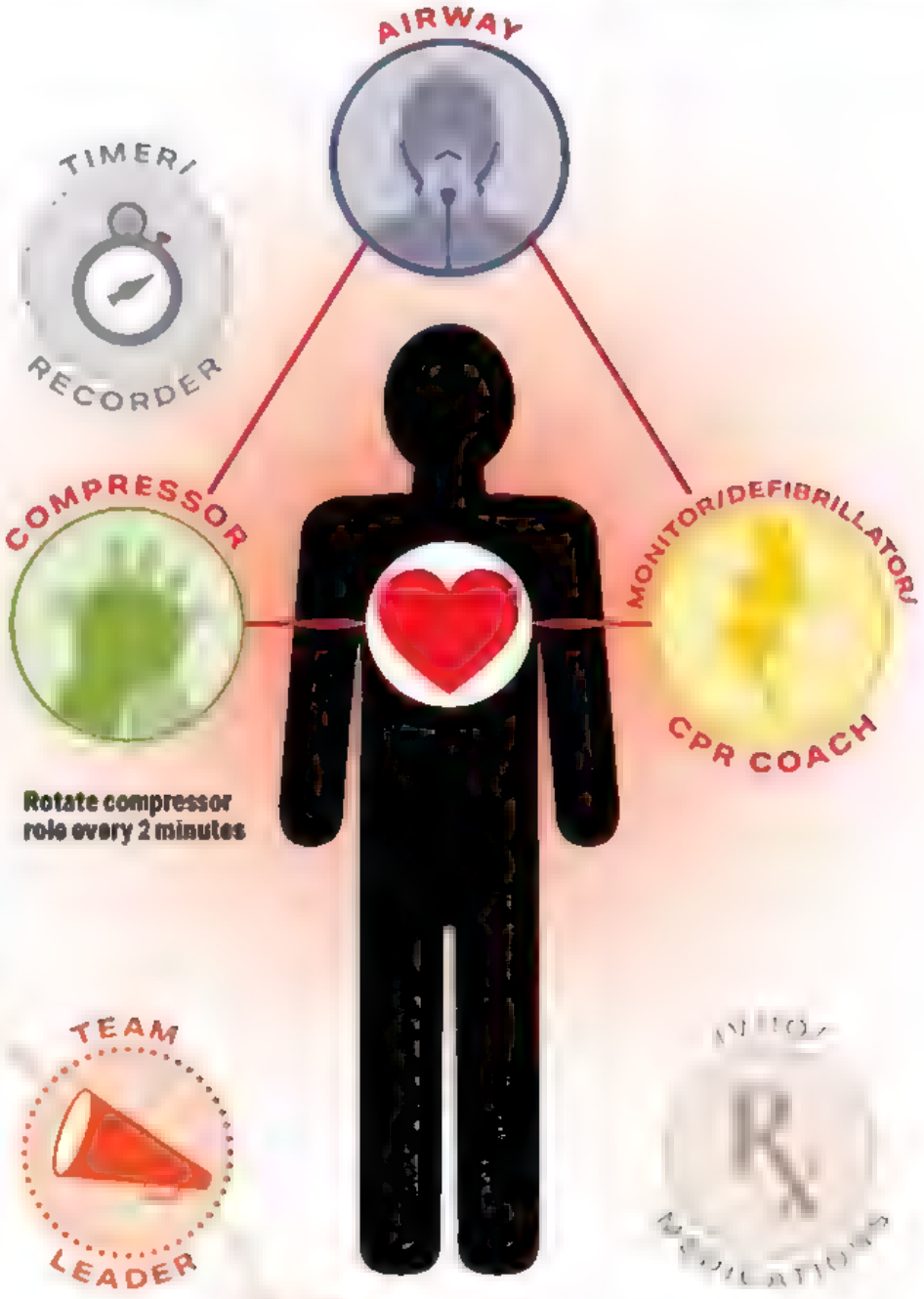
CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Positions for 6-Person High-Performance Teams



Coach

Push ▶ for reading content aloud

Autoplay On

ELEMENTS OF EFFECTIVE TEAM DYNAMICS

Knowing Your Limitations

Everyone on the team should **know his or her own limitations and capabilities**, including the Team Leader. This allows the Team Leader to evaluate resources and call for backup when necessary. High-performance team members should anticipate situations in which they need help and inform the Team Leader.

Team Member	Task
Team Leader and Team Members	• Call for assistance early rather than waiting until the patient deteriorates. • Seek advice from more experienced personnel when the patient's condition worsens despite primary treatment. • Allow others to carry out assigned tasks, especially if the task is essential to treatment.
Team Members	• Seek advice from more experienced personnel before starting an unfamiliar treatment or therapy. • Accept assistance from others when it is readily available.

PREVIOUS 1 2 3 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions.

ADVANCED BEGINNER

Coach

ELEMENTS OF EFFECTIVE TEAM DYNAMICS

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Constructive interventions

During a resuscitation attempt, anyone on a high-performance team may need to intervene tactfully if a team member is about to take an inappropriate action.

Team leaders should avoid confrontation with team members and, instead, **debrief afterward** if needed.

Team Member	Talk
Team Leader	• Ask that a different intervention be started if it has a higher priority • Reassign a team member who is trying to function beyond his or her level of ski
Team Members	• Suggest an alternative drug or dose confidently • Question a colleague who is about to make a mistake • Intervene if a team member is about to administer a drug incorrectly

PREVIOUS 1 2 3

I KNEW | I DIDN'T KNOW | UNSURE | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content a oud.

Autoplay On

Which member of the high-performance team has the responsibility for assigning roles (positions)?

CHOOSE THE CORRECT ANSWER

Airway

Timer/Recorder

Compressor

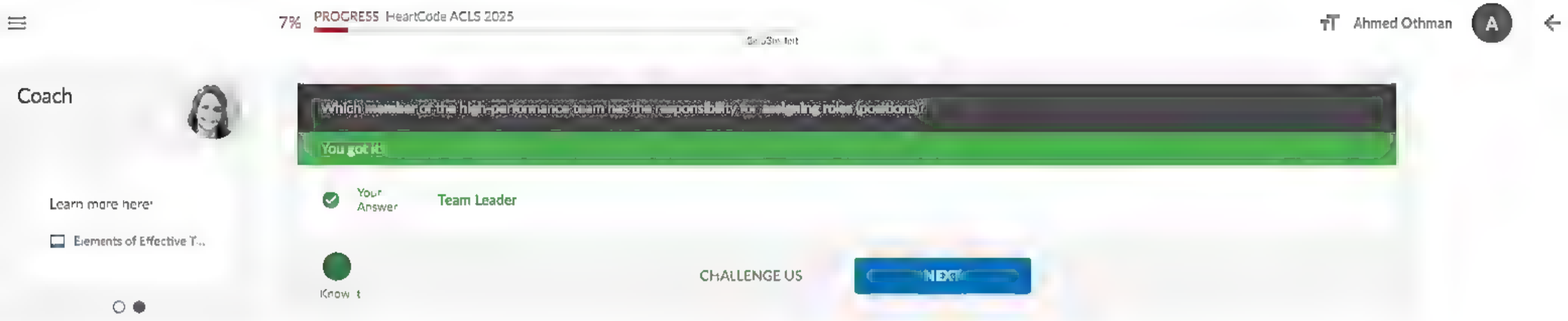
Team Leader

I KNOW IT | I THINK I KNOW | NO IDEA

Self-Assessment

Ad,ust your competence estimate to the r ght to focus on the questions

ADVANCED BEG NNER



Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

8% PROGRESS HeartCode ACLS 2025

-3h 58m left

Ahmed Othman A

Coach

Learn more here:

Elements of Effective T..

Which high-performance team member is part of the resuscitation triangle?

You got it!

Your Answer: Monitor/Defibrillator/CPR Coach

Know

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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Autoplay On

WHAT TO COMMUNICATE

Knowledge Sharing

Sharing information is critical to effective team performance. When resuscitative efforts are ineffective, go back to the basics and talk as a team. Have conversations like "Well, we've observed the following on the Primary Assessment. Have we missed something?" High-performance team members should **provide all available information about changes in the patient's condition** to ensure that the Team Leader makes appropriate decisions.

Team Member	Task
Team Leader	• Encourage information sharing. • Ask for suggestions about interventions, differential diagnoses, and possible overlooked treatments (eg, intravenous access or drug treatments). • Look for clinical signs that are relevant to the treatment.
Team Members	• Share information with each other. • Accept information that will improve their roles.

1 2 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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Autoplay On

WHAT TO COMMUNICATE

Summarizing and Reevaluating

An essentia ro e of the Team .eader s **monitoring and reevaluating interventions**, assessment findings, and the patient's stat is. Team Leaders sho ud period ca ly state th s nformation to the team and announce the plan for the next few steps. Remember that the patient s cond tion can change. Be flexib e to changing treatment plans and ask for nformation and summanes from the Timer/Recorder as wel

Team Member	Task
Team .eader	• Continuously revisit decisions about d fferentia diagnoses • Maintain an ongoing record of treatments and the patient's response • Change a treatment strategy when new information supports it. • nform arriving personne of the current status and plans for further action
Team .eader and Team Members	• Note s gnificant changes n the patient s c.inical condition • ncrease monitoring if the patient s cond tion deter ora es .eg frequency of respirations, blood pressure,

PREVIOUS 1 2

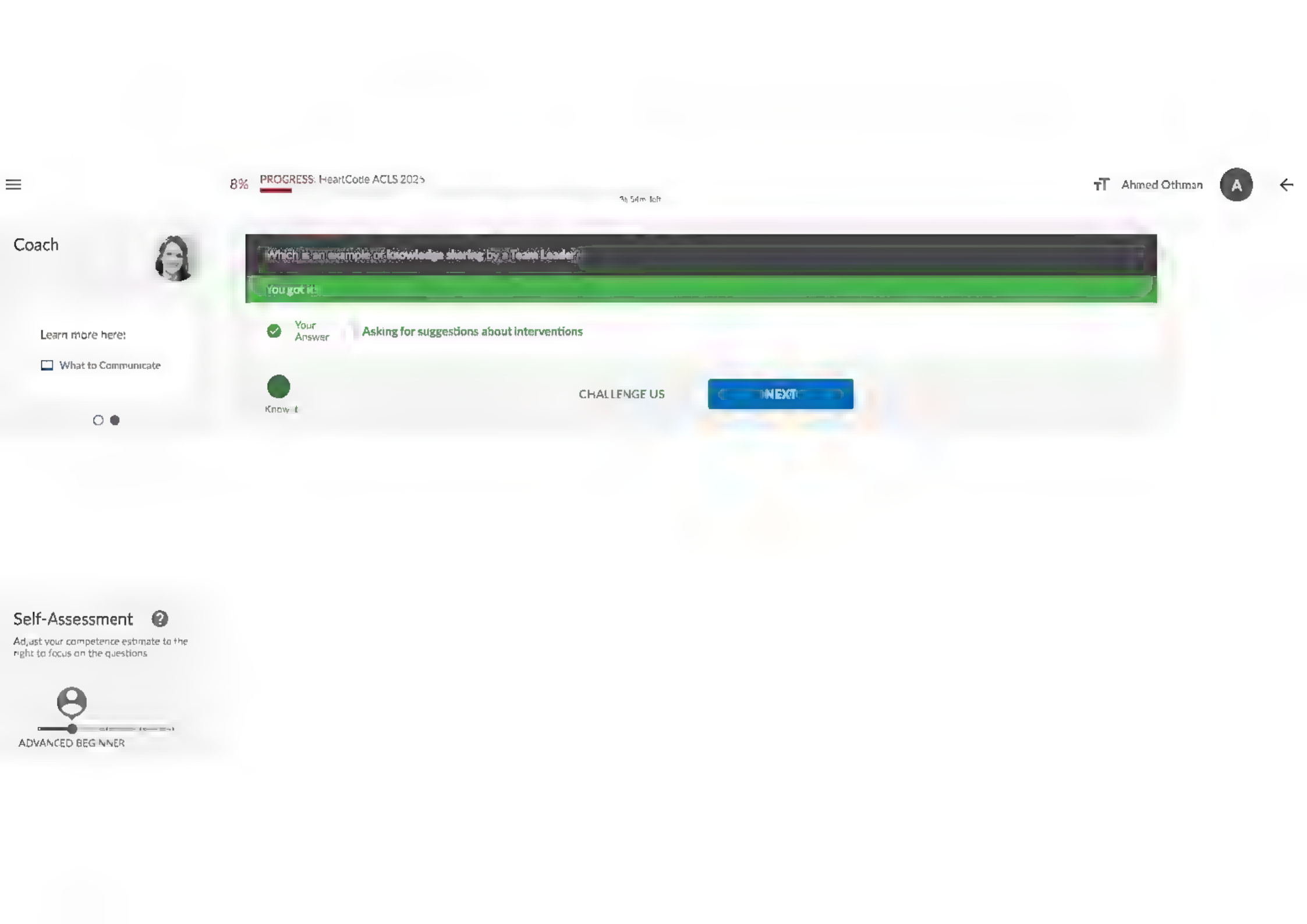
I KNEW I DON'T KNOW I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER


8% PROGRESS: HeartCode ACLS 2025
Ahmed Othman
A
Coach
Learn more here:
What to Communicate
You got it!
Your Answer
Asking for suggestions about interventions
Know it
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

9% PROGRESS HeartCode ACLS 2025

3h 3m left

Ahmed Othman

Coach

Which is an example of summarizing and reevaluating?

CHOOSE THE CORRECT ANSWER

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Autoplay On

Questioning a colleague who is about to make a mistake

"Compressions are at a good rate"

"1 mg of epinephrine given"

Increasing monitoring if the patient's condition deteriorates

I KNOW IT

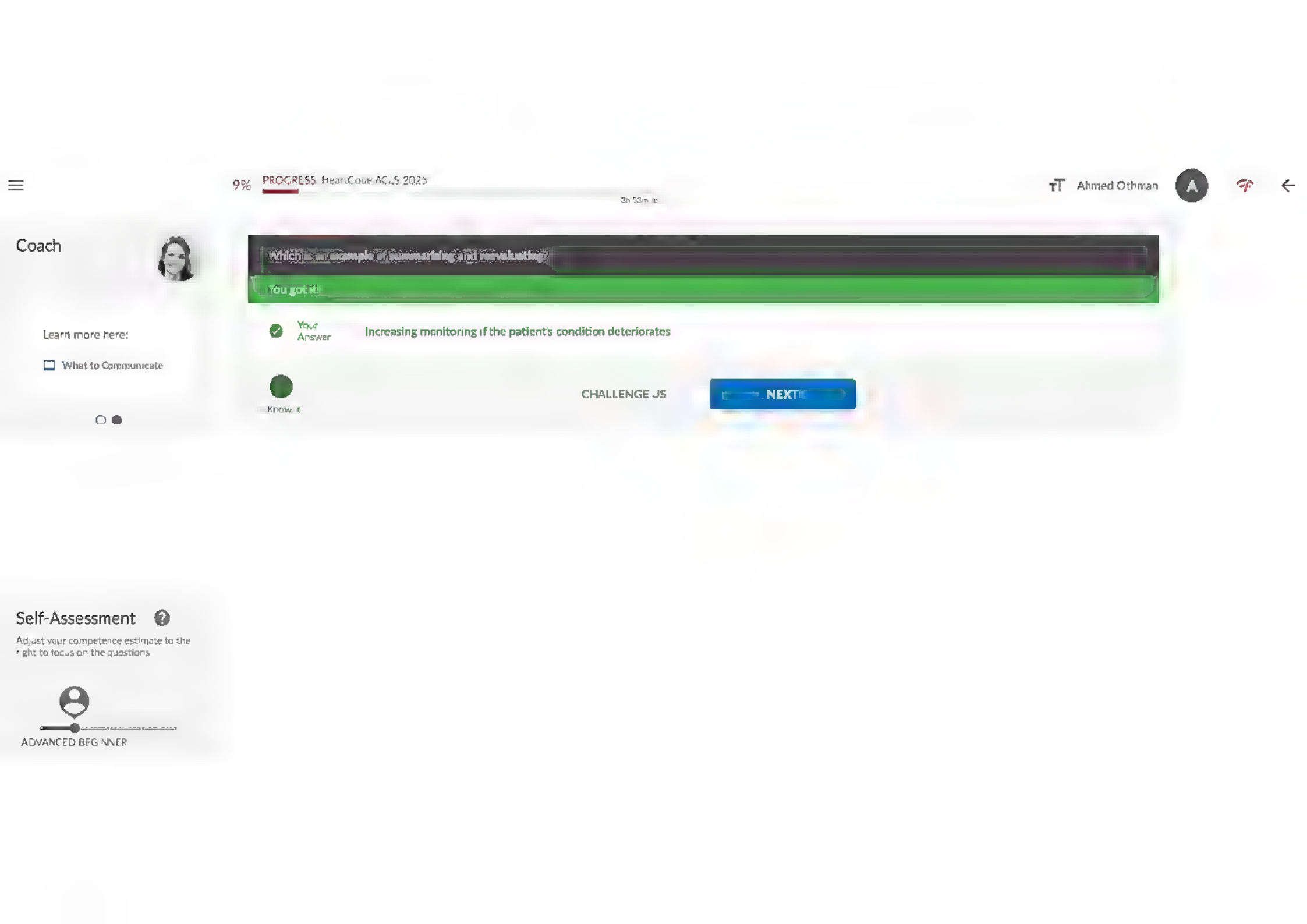
I THINK I KNOW

NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER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Ahmed Othman
Coach
You got it!
Your Answer
Increasing monitoring if the patient's condition deteriorates
Learn more here:
What to Communicate
CHALLENGE JS
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

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HOW TO COMMUNICATE

Closed-Loop Communications

Closed-loop communication is the process of **verifying that the message sent was received as intended** and also verifies that any assigned tasks have been completed.

When communicating with high-performance team members, the Team Leader should use these **closed-loop communication steps**:

1. Give a message, order, or assignment to a team member.
2. Request a clear response and eye contact from the team member to ensure that he or she understood the message.
3. Confirm that the team member completed the task before you assign him or her another task.

Team Member	Task
Team Members	• After receiving a task, close the loop by informing the Team Leader when the task begins or ends, such as, "The IV is in." • Give drugs only after verbally confirming the order with the Team Leader.
Team Leader	• Always assign tasks by using closed-loop communication, such as, "Give 1 mg of epinephrine and let me know when it has been given." • Assign additional tasks to a team member only after receiving confirmation of a completed assignment.

1 2 3 NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions.

ADVANCED BEGINNER

CHALLENGE US

Coach

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HOW TO COMMUNICATE

Clear Messages

Clear messages mean **concise communication** spoken with **distinctive speech** in a **controlled voice**. All healthcare providers should deliver **clear messages calmly and directly**, without yelling or shouting. Distinct, concise messages are crucial for clear communication because **unclear communication can delay treatment or cause medication errors**. Yelling or shouting can also impair effective high-performance team interaction.

Team Member	Task
Team Leader	• Encourage all team members to speak clearly and use complete sentences
Team Leader and Team Members	• Repeat orders and question them if the slightest doubt exists • Be careful not to mumble, yell, scream, or shout • Ensure that only 1 person talks at a time

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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Autoplay On

HOW TO COMMUNICATE

Mutual Respect

Finally, teams need to communicate with respect. Speak to each other in a professional manner, regardless of scope of practice or expertise. Resuscitation events are stressful, and emotions can run high. Understand that this is the nature of CPR, and remember the life you're trying to save.

The best high-performance team members **mutually respect each other** and **work together in a collegial, supportive manner**. Everyone in a high-performance team must abandon ego and show respect during the resuscitation attempt, regardless of any additional training or experience that specific team members may have.

Team Member	Task
Team Leader	• Acknowledge correctly completed assignments by saying, "Thanks. Good job!"
	• Show interest and listen to what others say
	• Speak in a friendly, controlled tone of voice
Team Leader and	• Avoid displaying aggression if teammates do not initially understand each other

PREVIOUS 1 2 3

KNEW DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

HOW TO COMMUNICATE

Team Leader	• Acknowledge correctly completed assignments by saying, "Thanks. Good job!"
Team Leader and Team Members	• Show interest and listen to what others say • Speak in a friendly, controlled tone of voice • Avoid displaying aggression if teammates do not initially understand each other • Understand that when one person raises his or her voice, others will respond similarly • Try not to confuse directive behavior with aggression

Debriefing

Not only is it important to know what to do during a cardiac arrest, but it's just as important to know how to work together as a team during an event. Debriefing as a team is an important component of every resuscitation attempt. Such **debriefing during and after an attempt helps individual team members perform better**, and it may also **bring system strengths and deficiencies to light**.

PREVIOUS 1 2 3

I KNEW | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions.

ADVANCED BEGINNER

Coach

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Autoplay On

Which is a step of closed-loop communication?

CHOOSE THE CORRECT ANSWER

Abandoning ego

Using distinctive speech and a control ed voice

Confirming task completion before assigning another task

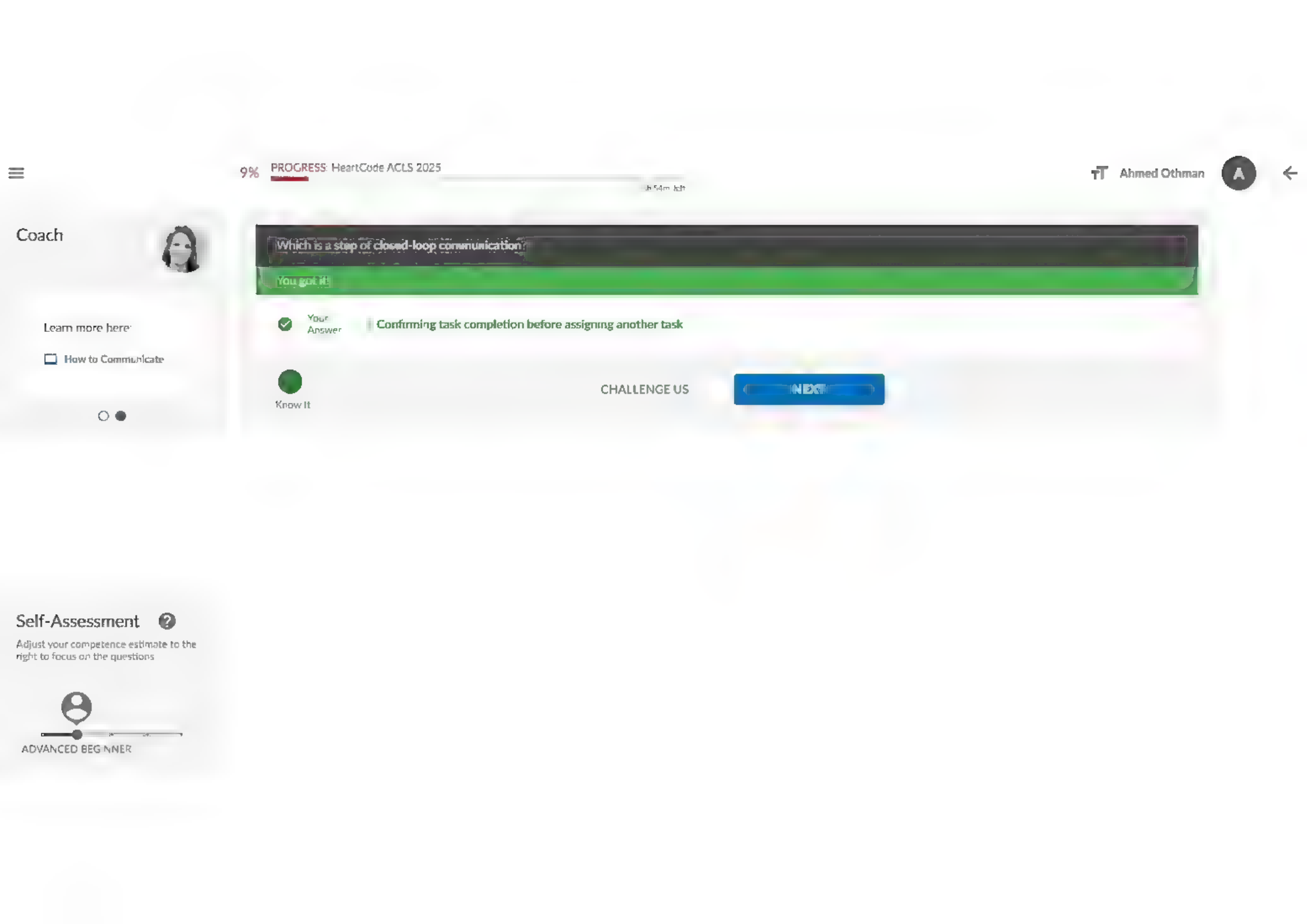
Encouraging all team members to speak clearly

I KNOW IT | I DON'T KNOW | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER


9% PROGRESS: HeartCode ACLS 2025
Ahmed Othman
A
Coach
Which is a step of closed-loop communication?
You got it!
Your Answer
Confirming task completion before assigning another task
Learn more here:
How to Communicate
Know It
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

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Autoplay On

Which are examples of mutual respect?

SELECT ALL THAT APPLY

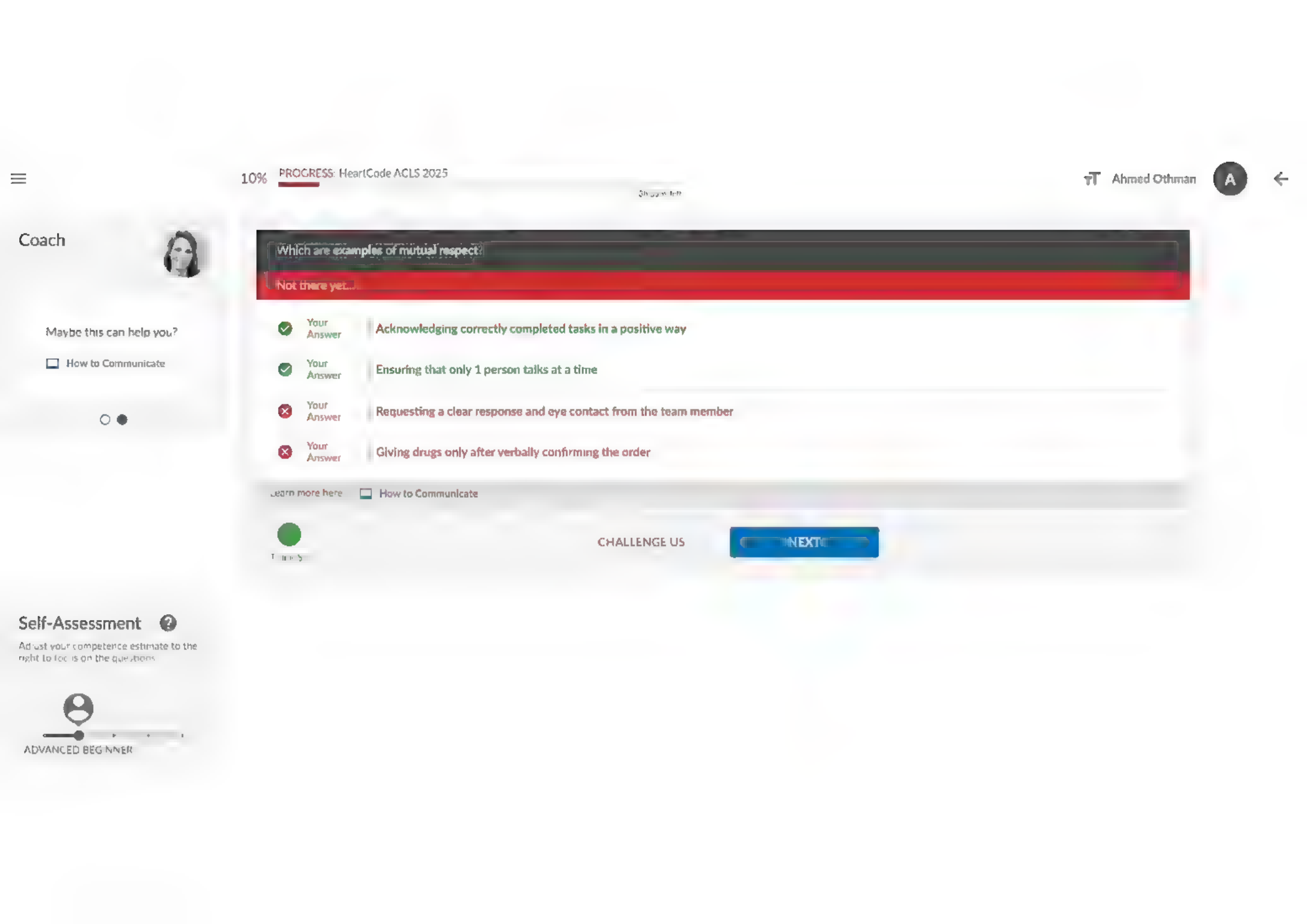
- [ ] Acknow edging correctly comp eted tasks in a positive way
- [ ] Requesting a clear response and eye contact from the team member
- [ ] Giving drugs only after verbally confirming the order
- [ ] Ensuring that only 1 person ta ks at a time

I KNOW IT | I JUST KNOW | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the que

ADVANCED BEGINNER


10% PROGRESS: HeartCode ACLS 2025
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A
Coach
Maybe this can help you?
How to Communicate
Which are examples of mutual respect?
Not there yet...
Your Answer
Acknowledging correctly completed tasks in a positive way
Your Answer
Ensuring that only 1 person talks at a time
Your Answer
Requesting a clear response and eye contact from the team member
Your Answer
Giving drugs only after verbally confirming the order
Learn more here
How to Communicate
CHALLENGE US
NEXT
Self-Assessment
ADVANCED BEGINNER

Coach

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HIGH-QUALITY CPR

Components

To perform high-quality CPR, rescuers should

- **Compress the chest hard and fast at least 2 inches** (5 cm) at a **rate of 100 to 120/min** (30:2 or another advanced protocol that maximizes chest compression fraction).
- **Allow the chest to completely recoil** after each compression.
- **Minimize interruption in compressions** (high chest compression fraction).
- **Switch compressors about every 2 minutes** or earlier if fatigued. **The switch should only take about 5 seconds.**
- **Avoid excessive ventilation**

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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HIGH-QUALITY CPR

Minimizing Interruptions in Chest Compressions

When you stop chest compressions, blood flow to the brain and heart stops, so you must minimize any interruptions. Additiona ly, **try to limit interruptions for defibrillation or rhythm analysis to no longer than 10 seconds**, unless you are moving the patient from a dangerous environment.

Avoid

- Prolonged rhythm ana ysis
- Frequent or inappropr ate pulse checks
- Prolo ged vent ation
- Unnecessary movement of the patient

Data suggest that lower chest compression fraction (CCF) is associated with decreased ROSC and survival to hospital discharge. CCF is a measurable goal, one that providers should strive to achieve.

PREVIOUS 1 2 3 NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER

CHALLENGE US

Coach

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Autoplay On

HIGH-QUALITY CPR

- Frequent or inappropriate pulse checks
- Prolonged ventilation
- Unnecessary movement of the patient

Data suggest that lower chest compression fraction (CCF) is associated with decreased ROSC and survival to hospital discharge CCF is a measurable goal one that providers should strive to achieve

CCF is the proportion of time during cardiac arrest resuscitation when the rescuer is performing chest compressions CCF should be as high as possible at least 60% and ideally greater than 80%

To calculate CCF, divide chest compression time by the total code time

Actual chest compression time / Total code time

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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Autoplay On

HIGH-QUALITY CPR

Tailoring the Sequence of Rescue Actions

Guidel nes recommend that healthcare providers **tailor the sequence of rescue actions based on the presumed etiology of the arrest**. Moreover, ACLS prov ders can choose the best approach (functioning within a 2-minute cycle) for the r high-performance team to minimize interruptions in chest compress ons and improve CCF includ ng protocols such as

- **Continuous chest compressions** with **asynchronous ventilation once every 6 seconds** with the use of a **bag-mask device**
- **Compression-only CPR in the first few minutes after arrest**

Multirescuer

PREVIOUS 1 2 3

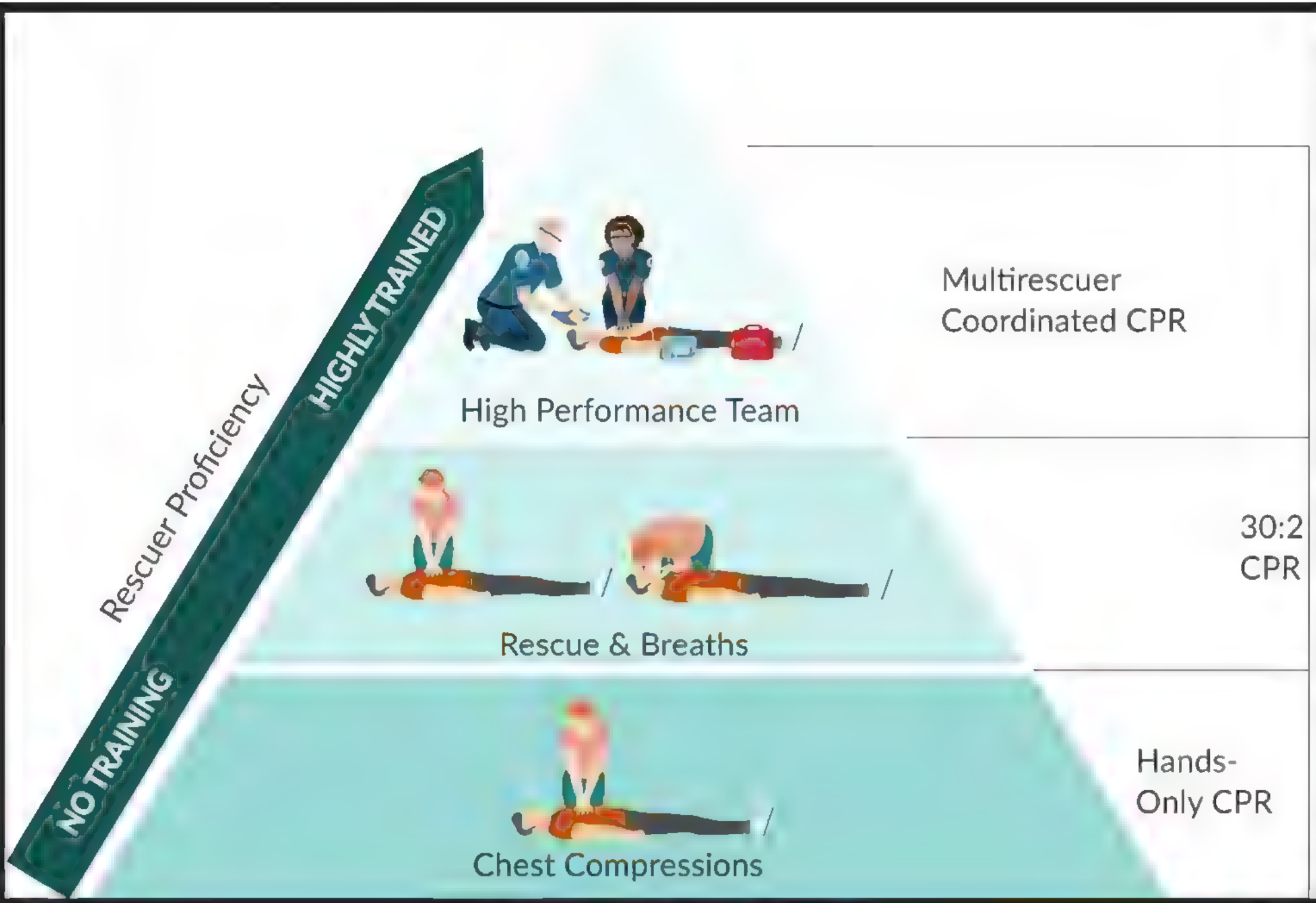
I KNEW | GOT IT NOW | THINK I GOT IT | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER


Rescuer Proficiency
NO TRAINING
HIGHLY TRAINED
High Performance Team
Rescue & Breaths
Chest Compressions
Multirescuer
Coordinated CPR
30:2
CPR
Hands-
Only CPR

Coach

Learn more here:

High-Quality CPR

What are the components of high-quality CPR?

You got it!

Your Answer | Compression depth of at least 2 inches (5 cm)

Your Answer | Complete chest recoil after each compression

Your Answer | Avoiding excessive ventilation

Your Answer | Switching compressors every 2 minutes
This may be earlier if the compressor is fatigued. The switch should only take around 5 seconds.

Your Answer | Interruptions limited to ≤10 seconds

Know It

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Which of the following defines chest compression fraction (CCF)

CHOOSE THE CORRECT ANSWER

Push ▶ for reading content aloud.

Autoplay On

$$\frac{\text{Number of compressions per minute}}{\text{Total code time}}$$

$$\frac{\text{Compression depth} \times \text{compression rate}}{\text{Total code time}}$$

$$\frac{\text{Chest compression time} + \text{ventilation time}}{\text{Total code time}}$$

$$\frac{\text{Actual chest compression time}}{\text{Total code time}}$$

I KNOW IT | I'M NOT SURE | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

11% PROGRESS: HeartCode ACLS 2025

2h 59m left

Ahmed Othman A

Coach

Which of the following defines chest compression fraction (CCF)?

You got it.

Your Answer

Actual chest compression time / Total code time

Chest compression fraction is the **proportion of time** during cardiac arrest resuscitation when the rescuer is **performing chest compressions**

Learn more here:

High-Quality CPR

I Know It

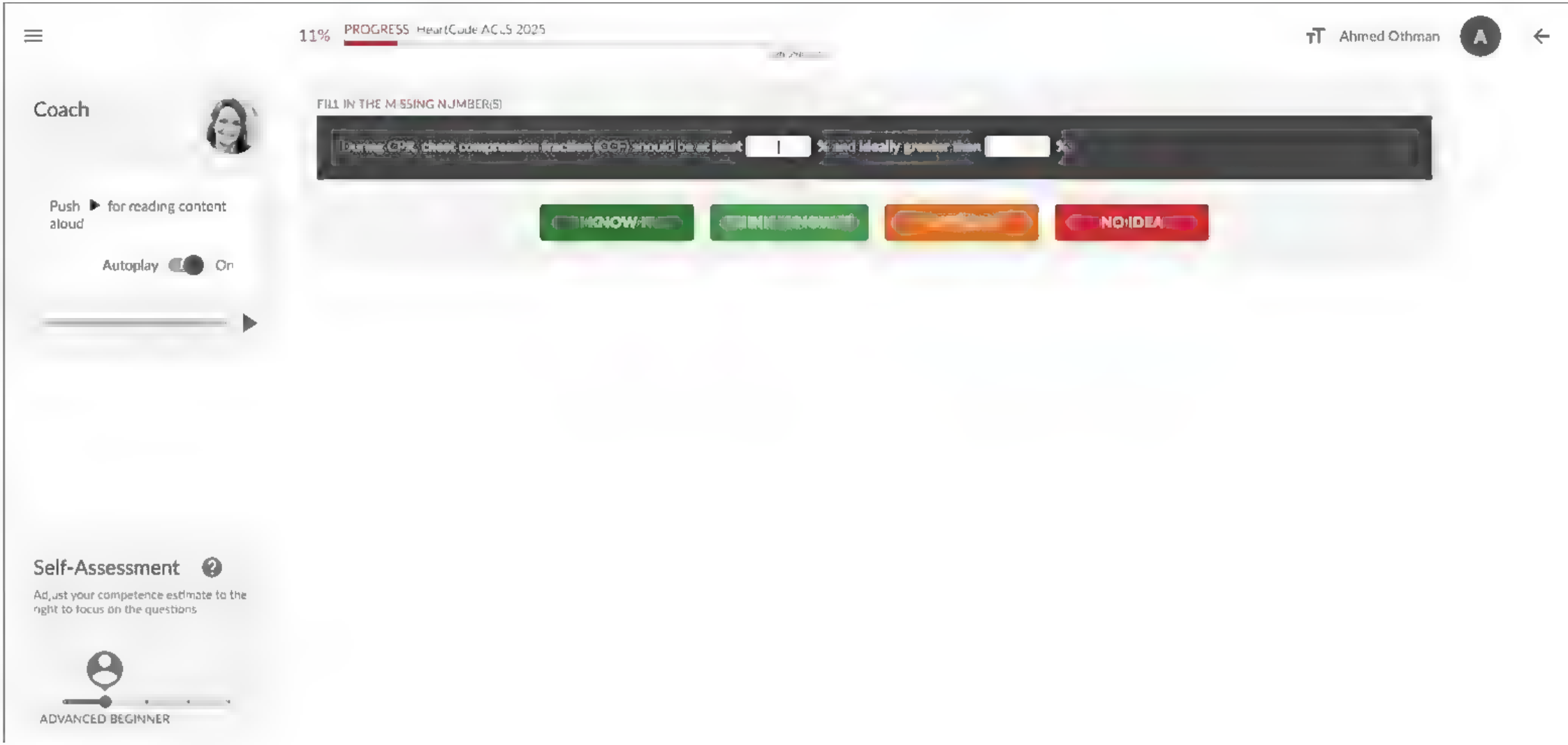
CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER


11% PROGRESS HeartCode ACLS 2025
Ahmed Othman
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Coach
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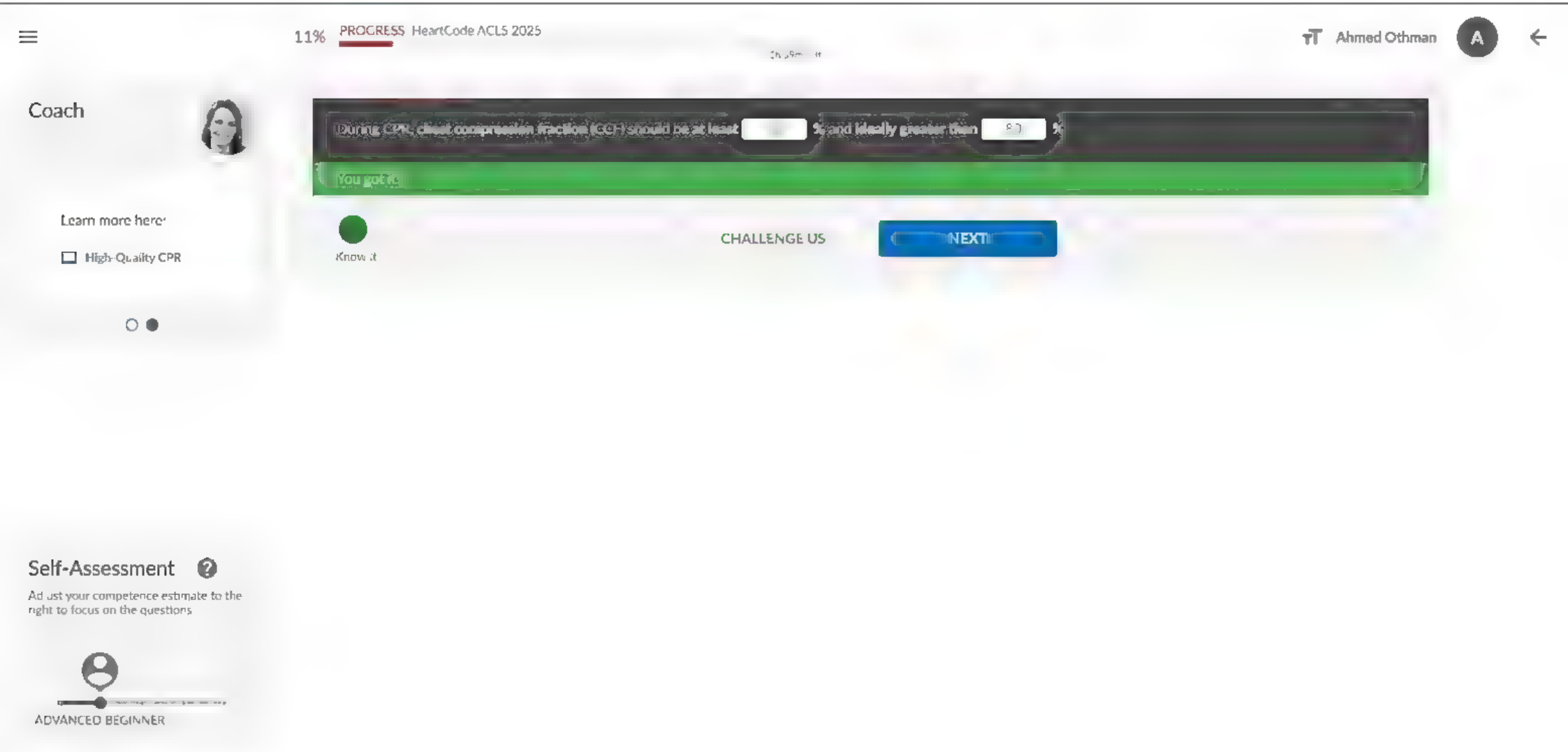
Autoplay On
FILL IN THE MISSING NUMBER(S)
during CPR, chest compression fraction (CCF) should be at least % and ideally greater than %
KNOW IT
I DON'T KNOW IT
NO IDEA
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER


11% PROGRESS HeartCode ACLS 2025
Ahmed Othman
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Coach
Learn more here:
High-Quality CPR
% and Ideally greater than
%
You got it
Know it
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

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INTERRUPTIONS IN CHEST COMPRESSIONS

Coronary Perfusion Pressure (CPP)

It is crucial to **minimize interruptions** in compressions to maintain adequate CPP. CPP is aortic relaxation, or diastolic pressure, minus right atrial diastolic pressure.

CPP = Aortic diastolic pressure - right atrial diastolic pressure

During CPR, CPP correlates with both myocardial blood flow and ROSC. **In 1 human study, ROSC did not occur unless a CPP of 15 mm Hg or greater was achieved during CPR.**

When healthcare providers interrupt chest compressions, **coronary perfusion pressure decreases dramatically and remains very low until compressions are resumed.** It takes several compressions to build enough pressure to achieve an adequate coronary perfusion pressure necessary to get ROSC.

The higher the coronary perfusion pressure during CPR, the higher the chances of survival for patients.

This figure illustrates the relationship of quality CPR to coronary perfusion pressure, demonstrating the need to minimize interruptions in compressions.

1 2 NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

CHALLENGE US

Coach

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INTERRUPTIONS IN CHEST COMPRESSIONS

takes several compressions to build enough pressure to achieve an adequate coronary perfusion pressure necessary to get ROSC.

The higher the coronary perfusion pressure during CPR the higher the chances of survival for patients

This figure illustrates the relationship of quality CPR to coronary perfusion pressure demonstrating the need to minimize interruptions in compressions.

In a patient with an **arterial line**, a reasonable surrogate for CPP is **arterial relaxation or diastolic pressure**.

1 2 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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INTERRUPTIONS IN CHEST COMPRESSIONS

Quantitative Waveform Capnography

Because CPP or arterial diastolic pressure measurements are not readily available during a resuscitation attempt, healthcare providers can **monitor CPR quality with quantitative waveform capnography using an advanced airway** in place of a bag-mask device

This uses **$ETCO_2$** to estimate tissue perfusion and the quality of chest compressions.

PREVIOUS 1 2

KNEW [illegible] [illegible] DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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Autoplay On

CHOOSE THE CORRECT ANSWER

Increase intrathoracic pressure

Reduce right ventricular preload

Increase intracranial pressure

Decrease coronary perfusion pressure

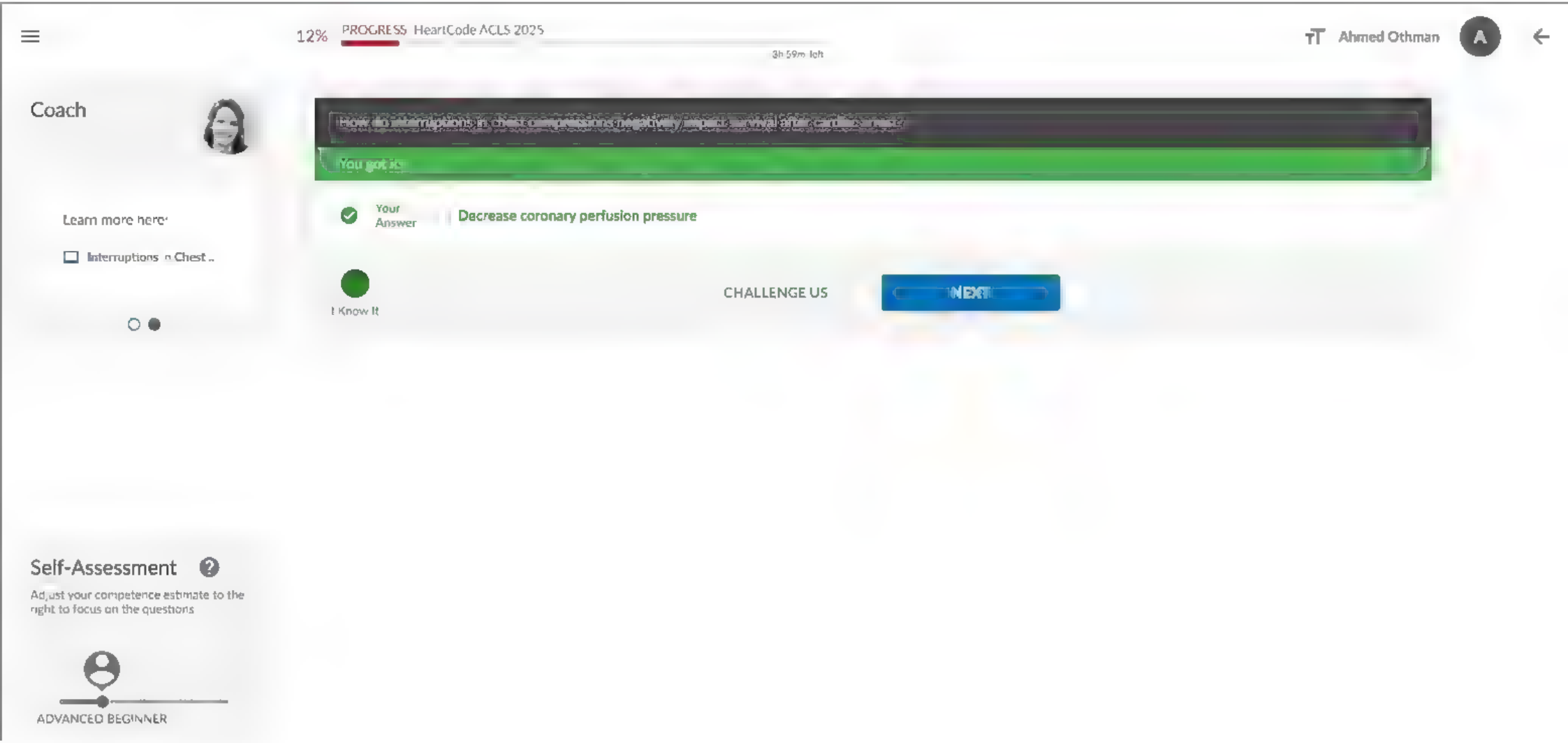
KNOW-IT

NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER


12% PROGRESS HeartCode ACLS 2025
3h 59m left
Ahmed Othman
A
Coach
Learn more here
Interruptions n Chest ..
You got it!
Your Answer
Decrease coronary perfusion pressure
I Know It
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

Self-Assessment

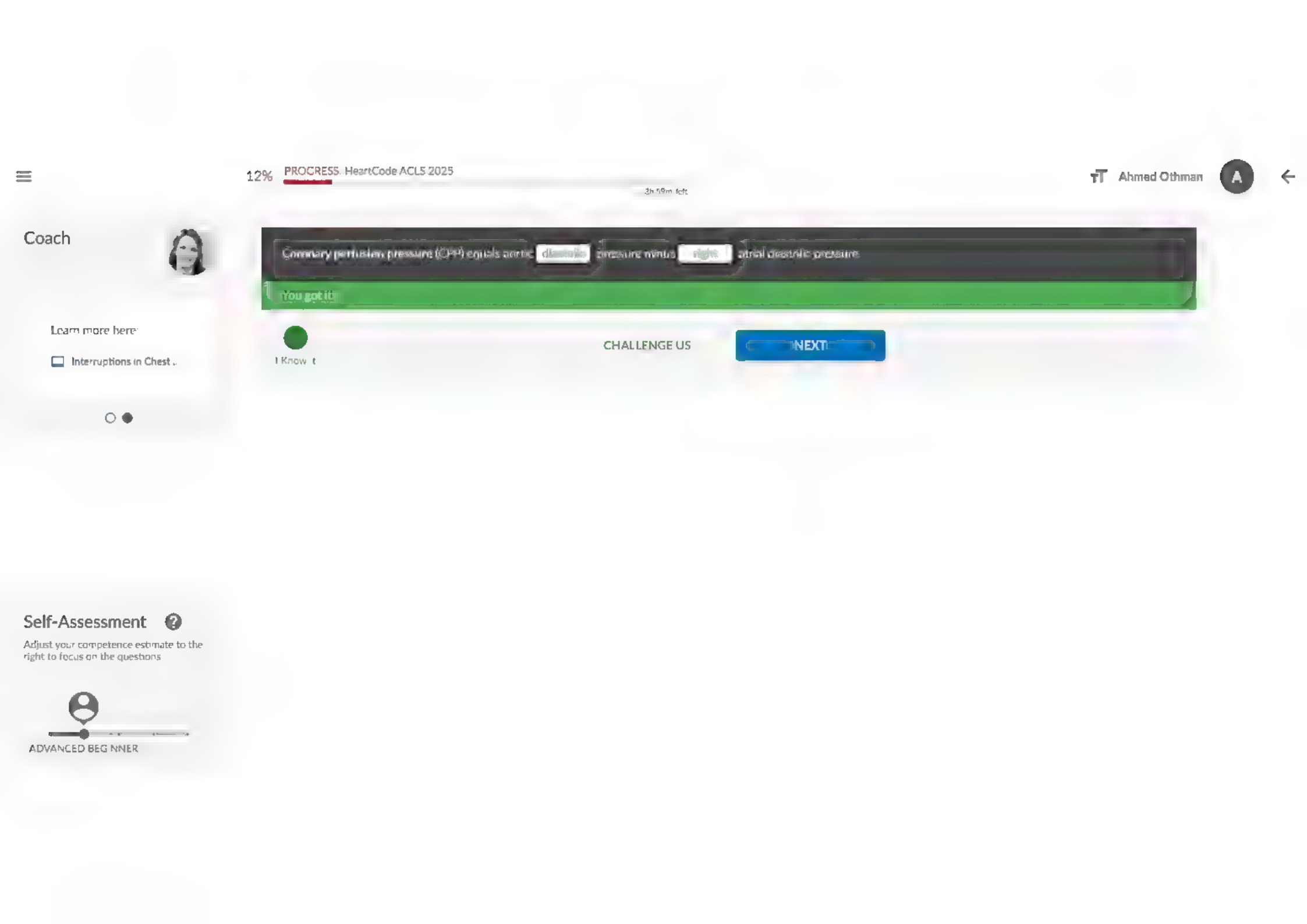
Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

FILL IN THE MISSING WORD(S).

Coronary perfusion pressure (CPP) equals aortic [redacted] pressure minus [redacted] diastolic pressure.

I KNOW IT | I KNOW IT | [redacted] | NO IDEA


12% PROGRESS HeartCode ACLS 2025
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Ahmed Othman
A
Coach
Coronary perfusion pressure (CPP) equals aortic diastolic pressure minus right atrial diastolic pressure
You got it!
Learn more here:
Interruptions in Chest ..
I Know it
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEG NNER

Coach

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Autoplay On

DEFIBRILLATION AND SURVIVAL

Early Defibrillation

The interval from collapse to defibrillation is one of the most important determinants of survival from cardiac arrest, and early defibrillation is critical

- A common initial rhythm in out-of-hospital witnessed sudden cardiac arrest is ventricular fibrillation (VF).
- Pulseless ventricular tachycardia (pVT) rapidly deteriorates to VF; this is when the heart quivers and does not pump blood.
- Electrical defibrillation is the most effective way to treat VF and pVT
- The probability of successful defibrillation decreases quickly over time.
- VF deteriorates to asystole if not treated.

pVT → VF → Asystole

The earlier defibrillation occurs, the higher the survival rate. When VF is present, CPR can provide a small amount of blood flow to the heart and brain but cannot directly restore an organized rhythm. Restoring a perfusing rhythm is more likely with immediate CPR and defibrillation within a few minutes after the initial arrest.

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content a oud.

Autoplay On

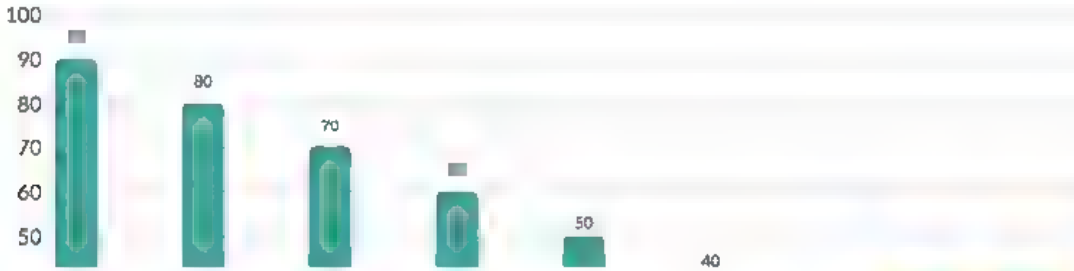
DEFIBRILLATION AND SURVIVAL

Early Defibrillation and Survival

For every minute that passes between collapse and defibrillation the chance of survival from a witnessed VF sudden cardiac arrest declines by 7% to 10% per minute without bystander CPR.

When bystanders perform CPR, the decline is more gradual and averages **3% to 4% per minute. Early CPR can double or triple survival from witnessed sudden cardiac arrest at most defibrillation intervals.**

Survival (%)

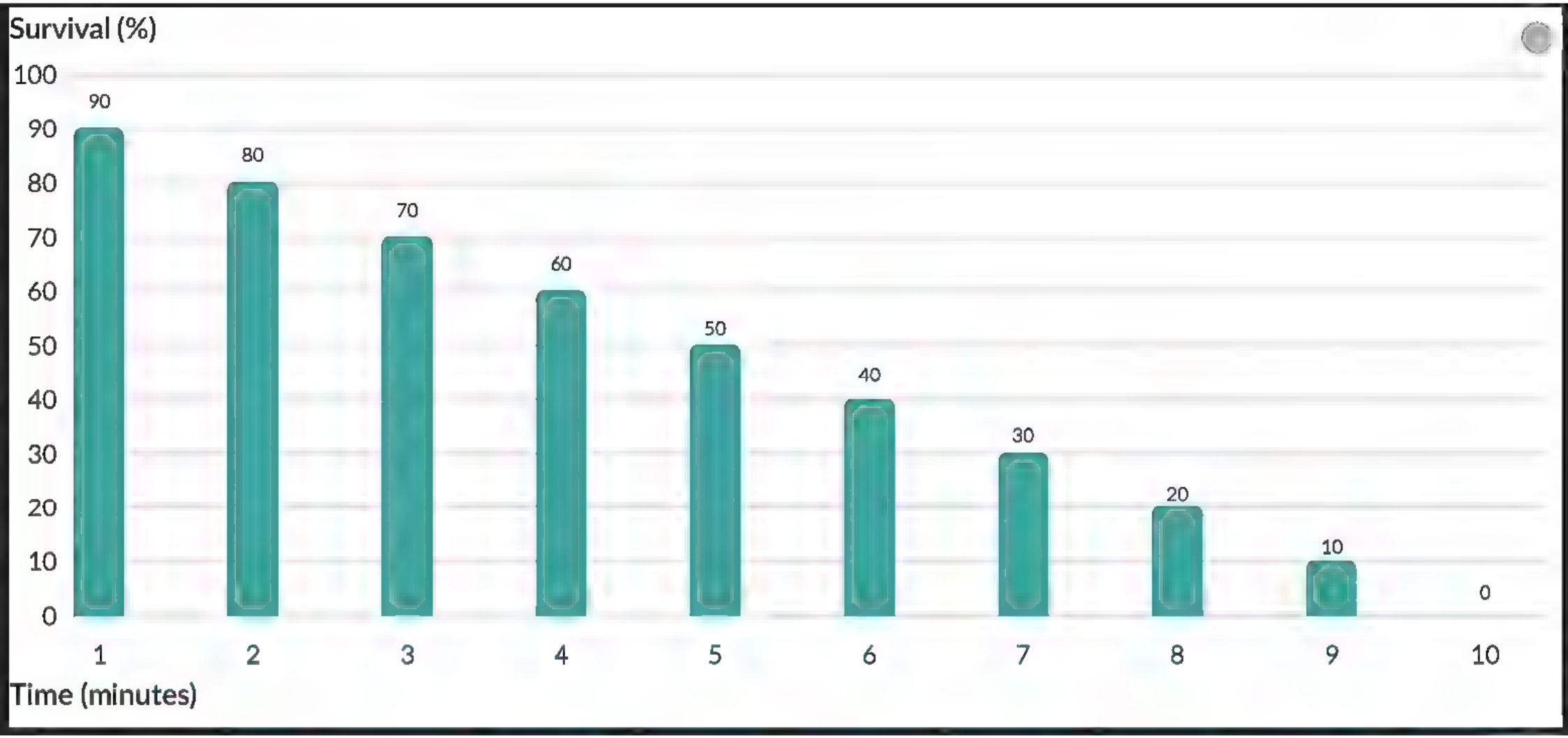


CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER


Survival (%)
100
90
80
70
60
50
40
30
20
10
0
90
80
70
60
50
40
30
20
10
0
1
2
3
4
5
6
7
8
9
10
Time (minutes)

Coach

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DEFIBRILLATION AND SURVIVAL

Minimizing Interruptions in Compressions During Defibrillation

The AHA does not recommend continued use of an AED or automatic mode when a manua defibrillator 's avai able and providers can adequately interpret rhythms Rhythm analys s and shock administration with an AED may prolong interruptions n chest compressions. Add tiona y while the manual defibril ator is charging, providers should resume CPR Shortening the interval between the ast compress on and the shock by even a few seconds can mprove shock success (defibr l ation and ROSC), so practice efficient coordination between CPR and defibril ation

You should deliver the shock as soon as the compressor removes his or her hands from the patient's chest and all providers are clear of contact with the patient The same compressor should resume compressions immediately after the shock is del'vered

PREVIOUS 1 2 3 4 NEXT

CHALLENGE US

Self-Assessment

Ad ust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER

Coach

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Autoplay On

DEFIBRILLATION AND SURVIVAL

⚠ Safe Defibrillation

To ensure safety during defibrillation **always announce the shock warning**. This entire sequence should take less than 5 seconds

- "Clear! Shocking!" You do not need to use these exact words, but you must warn others that you are about to deliver shocks and that everyone must stand clear of the patient.
  - Check to **make sure you are clear of contact with the patient**, the stretcher, or other equipment.
  - Make a **visual check** to ensure that no one is touching the patient or stretcher.
  - Make sure **oxygen is not flowing** across the patient's **chest**.
- When pressing the shock button, **the defibrillator operator should face the patient**, not the machine. This helps to ensure coordination with the chest compressor and to verify that no one has resumed contact with the patient.

PREVIOUS 1 2 3 4

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

13% PROGRESS HeartCode ACLS 2025

Ahmed Othman A

Coach

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Autoplay On

What is the only intervention that can restore an organized rhythm in patients with ventricular fibrillation (VF)?

CHOOSE THE CORRECT ANSWER

Epinephrine administration

Early and effective defibrillation

High-quality CPR

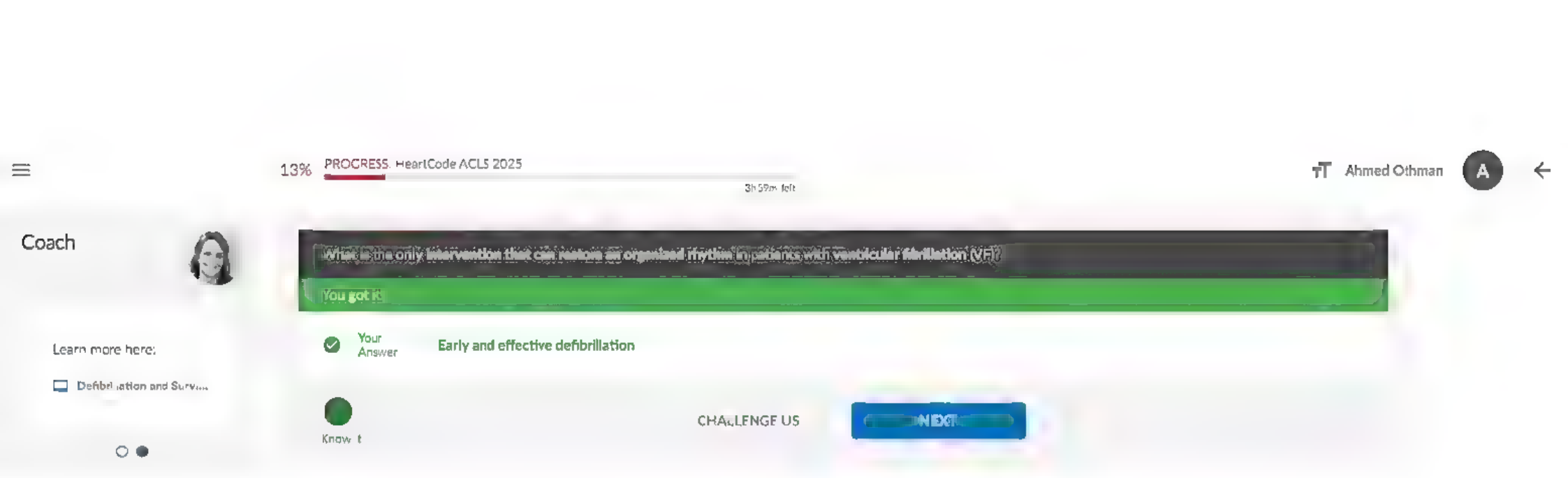
Advanced airway insertion

I KNOW IT | I THINK I KNOW | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER



Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

How quickly does the chance of survival decline for every minute of defibrillation delay in patients with ventricular fibrillation (VF) who do not receive bystander CPR?

CHOOSE THE CORRECT ANSWER

- ✓ 7% to 10%
- 5% to 6%
- 3% to 4%
- 11% to 13%

I KNOW IT | I NEED TO KNOW | NO IDEA

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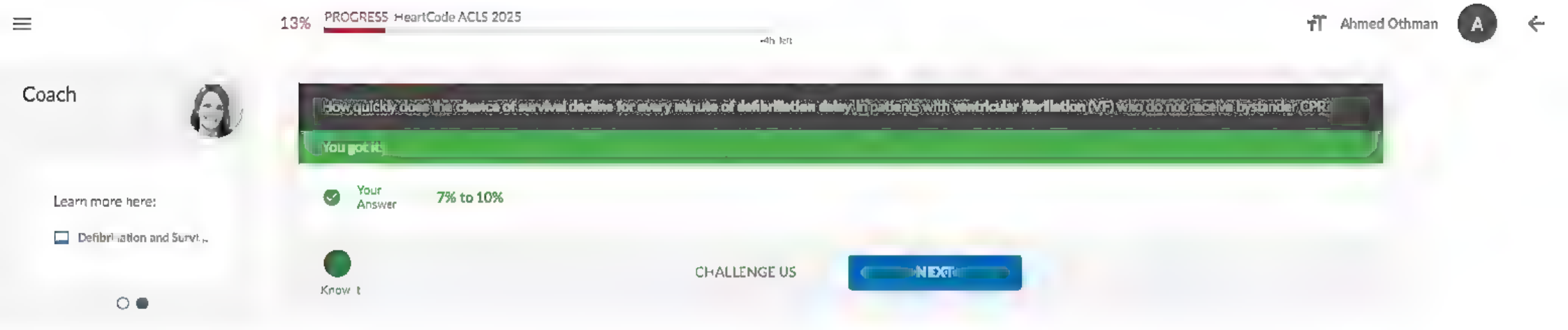
Autoplay On

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER



Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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SYSTEMATIC APPROACH

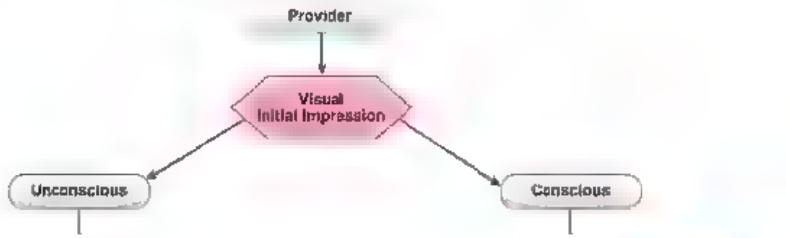
For optimal care, hea thcare providers use a systematic approach to assess and treat acutely i or injured patients. Not only does the systematic approach a.low a standardized method for evaluating patients. It reduces the chances of m ssing or overlooking important signs and symptoms that need to be considered in treatment of all patients.

Components of the Systemic Approach

The systematic approach consists of the follow.ng components

- Initial impression (visua. zation and scene safety)
- BLS Assessment
- Primary Assessment (A. B, C, D, and E)
- Secondary Assessment (SAMPLE, H's and T's)

Expanded Systematic Approach Algorithm



1 2 NEXT

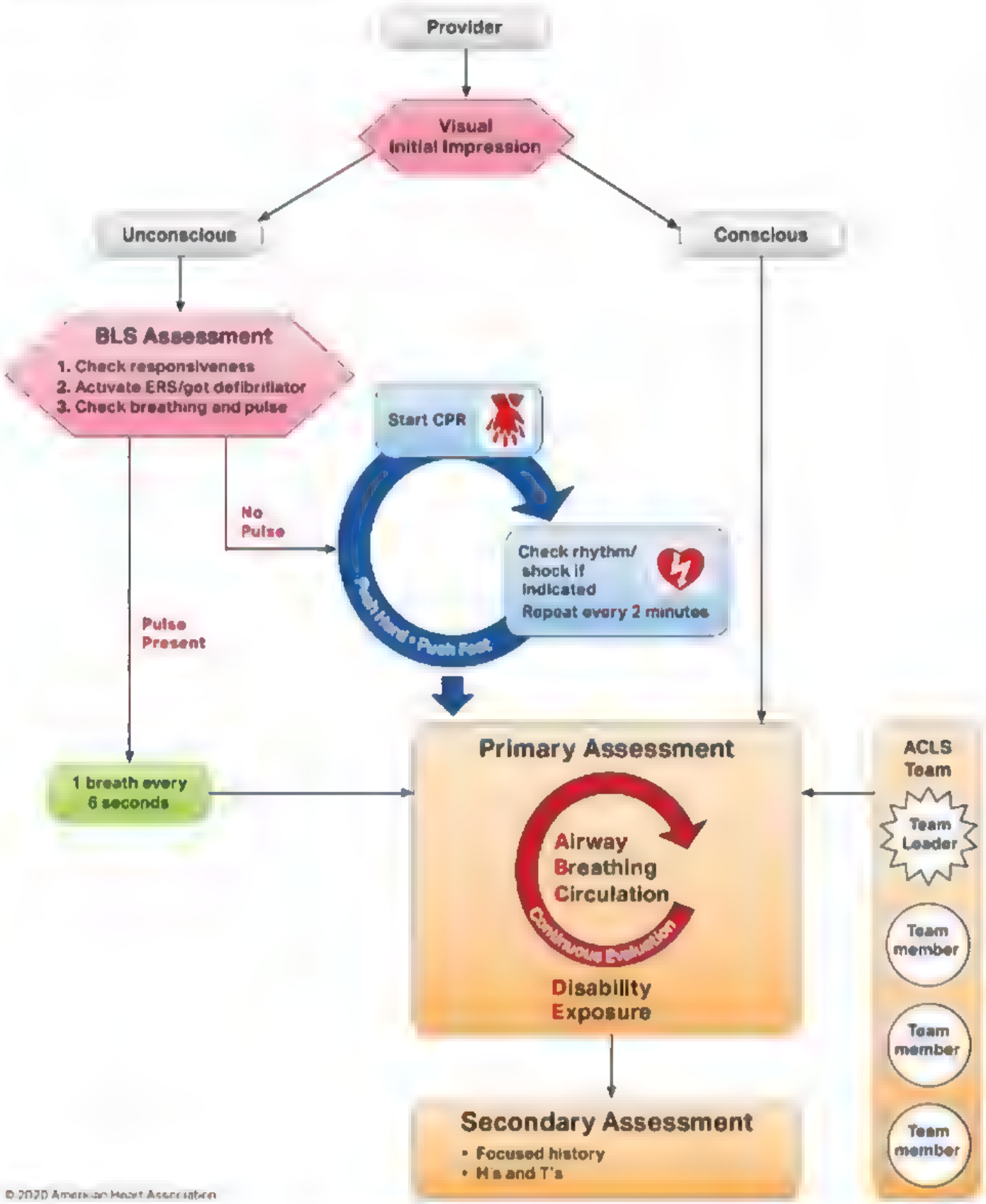
CHALLENGE US

Se f-Assessment

Adjust your competence estimate to the r ght to focus on the questions

ADVANCED BEGINNER

Expanded Systematic Approach Algorithm



Coach

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Autoplay On

SYSTEMATIC APPROACH

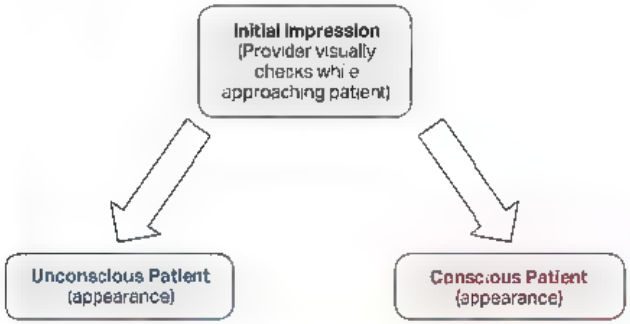
Initial Impression

Before you approach any patient, rapidly survey the scene to determine if the scene is safe and that there is no threat to the prov'der

Once you ve determined that the scene 's safe, use the systematic approach to perform your initial impression and determine the patient's level of consciousness

If the patient appears unconscious, use the BLS Assessment for the initial eva uation and use the Pr mary and Secondary Assessments for more ad vanced eva uation and treatment. If the patient appears conscious use the Primary Assessment for your initia evaluation. ntervening and stopp ng a patient s downward sp.ra ls the ultimate goa of the BLS, Pr mary and Secondary Assessments.

The Systematic Approach



PREVIOUS 1 2

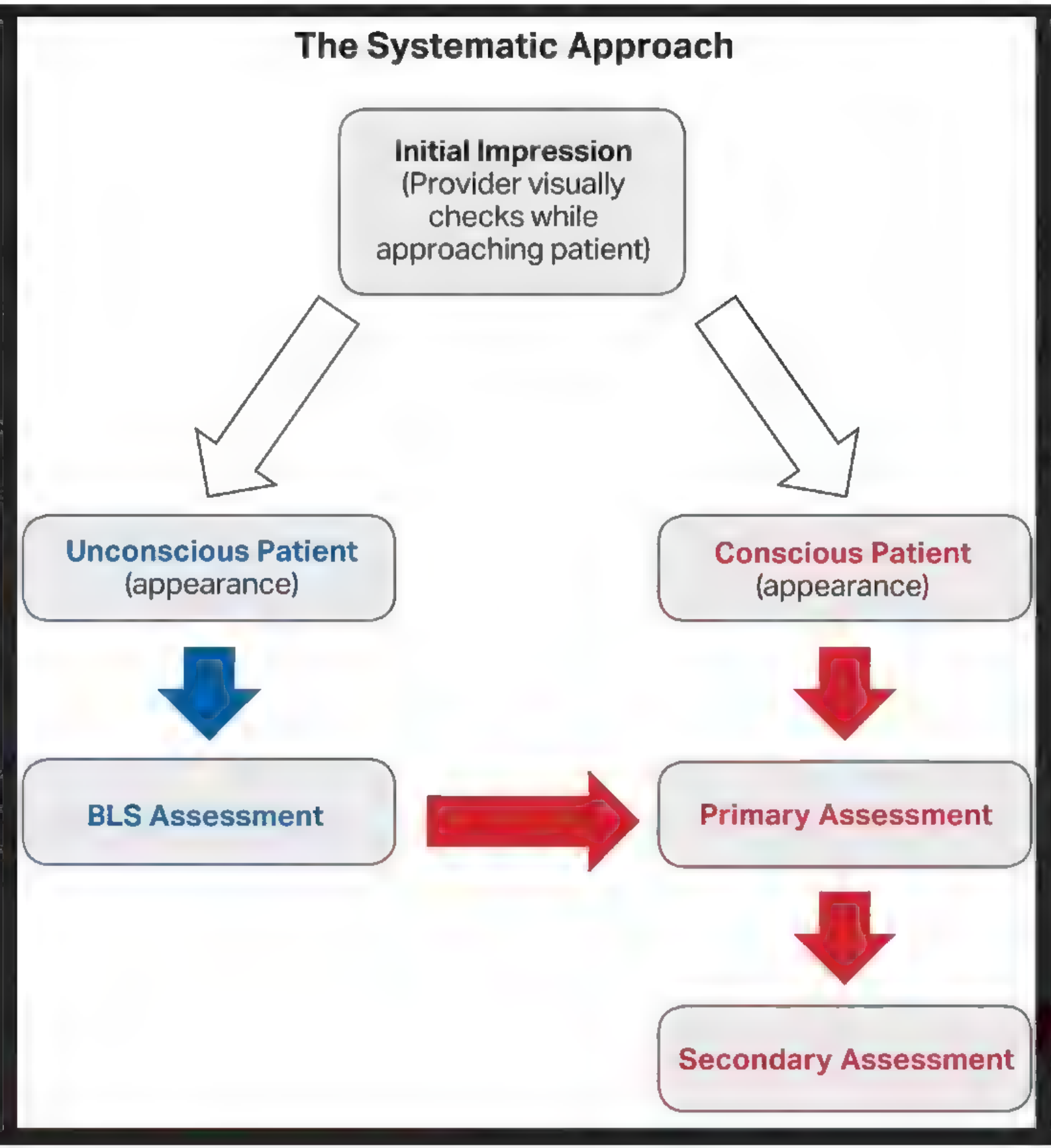
I KNEW | GOT IT NOW | THINK I GOT IT | I DON'T GET IT

CHALLENGE US

Self-Assessment

Ad,ust you.r competence estimate to the right to focus on the questions

ADVANCED BEG NNER


The Systematic Approach
Initial Impression
(Provider visually checks while approaching patient)
Unconscious Patient
(appearance)
Conscious Patient
(appearance)
BLS Assessment
Primary Assessment
Secondary Assessment

Coach

Push ▶ for reading content a oud

Autoplay On

What is an advantage of a systematic approach to patient assessment?

CHOOSE THE CORRECT ANSWER

- Reduces the chances of miss.ng important s gns and symptoms
- Perm ts assessment modification based on patient symptoms
- Standardizes treatment across systems of care
- Reduces the need for secondary assessment

I KNOW IT | I THINK I KNOW | [illegible] | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

14% PROGRESS HeartCode ACLS 2025

4h 1m left

Ahmed Othman A

Coach

What is an advantage of a systematic approach to patient assessment?

You got it!

Your Answer: Reduces the chances of missing important signs and symptoms

Learn more here:

Systematic Approach

Know it

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

15% PROGRESS HeartCode ACLS 2025

4h 1m left

Ahmed Othman A

Coach

What is the first step in the systematic approach to patient assessment?

CHOOSE THE CORRECT ANSWER

BLS Assessment

Secondary Assessment

Primary Assessment

Initial impression

I KNOW IT | I THINK I KNOW IT | NOT SURE | NO IDEA

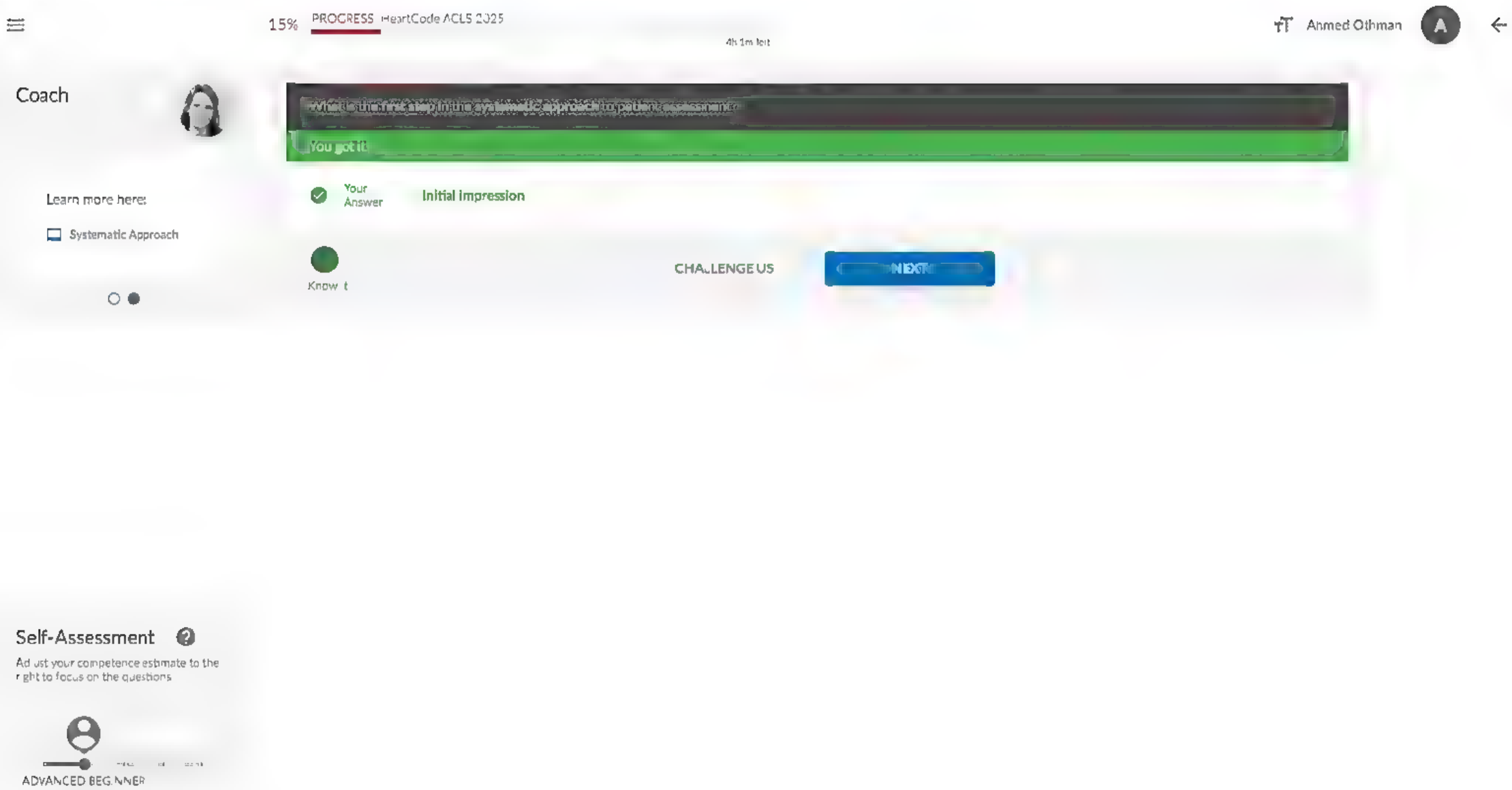
Push ▶ for reading content aloud

Autoplay On

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER


15% PROGRESS HeartCode ACLS 2025
4h 1m left
Ahmed Othman
A
Coach
You got it!
Learn more here:
Systematic Approach
Your Answer
Initial impression
Know it
CHALLENGE US
NEXT
Self-Assessment
Adjust your competence estimate to the right to focus on the questions
ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud

Autoplay On

BLS ASSESSMENT

The BLS assessment is a systematic approach to BLS for trained healthcare providers. **This approach stresses early CPR with basic airway management and defibrillation** but not advanced airway techniques or drug administration. By using the BLS Assessment, any healthcare provider can support or restore effective oxygenation, ventilation, and circulation until the patient achieves ROSC or advanced providers intervene.

Tailoring the Sequence of Rescue Actions

Single rescuers may tailor the sequence of rescue actions to the most likely cause of arrest. For example, a healthcare provider who sees an adolescent suddenly collapse after a blow to the chest, can assume that the patient has had a sudden cardiac arrest. In this case, the rescuer should activate the emergency response system, get an AED if nearby, return to the patient to attach the AED, and then provide CPR. However, if the rescuer believes hypoxia caused the cardiac arrest, such as in a drowning victim, he or she may give about 2 minutes of CPR, including breaths, before activating the emergency response system.

1 2 3 4 5 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions.

ADVANCED BEGINNER

Coach

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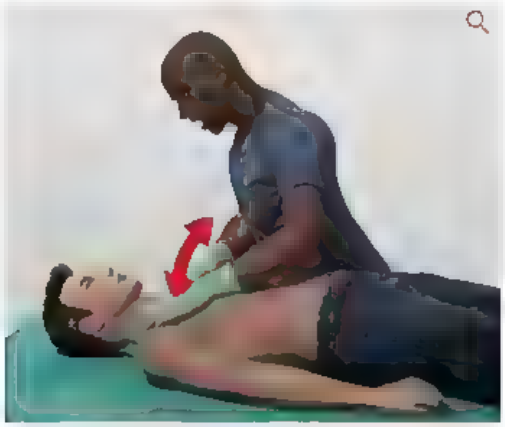
Autoplay On

BLS ASSESSMENT

After verifying the scene is safe, if the patient appears unconscious, use the BLS Assessment.

Step 1 Check for responsiveness

Tap and shout, "Are you OK?"



PREVIOUS 1 2 3 4 5 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER

Coach

Push ▶ for reading content aloud.

Autoplay On

BLS ASSESSMENT

Step 2 Shout for nearby help/activate the emergency response system and get the AED or defibrillator

- **Shout for help**
- Activate the **emergency response system.**
- **Get an AED** f one is availab e, or send someone to activate the emergency response system and get an AED or defibr llator

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER

Coach

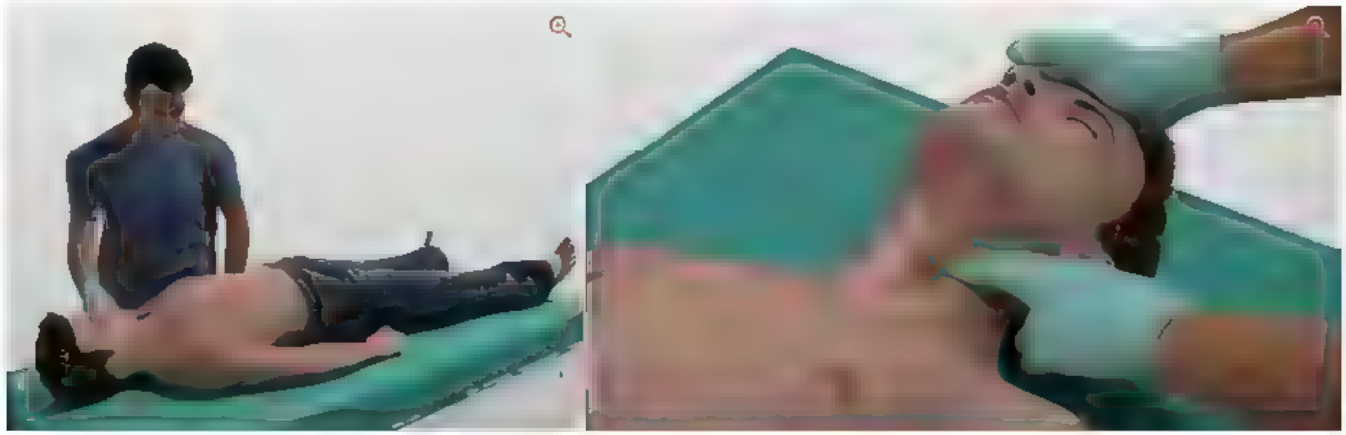
Push ▶ for reading content a oud.

Autoplay On

BLS ASSESSMENT

Step 3 Check for breathing and pulse

- Check for absent or abnormal breathing (no breathing or only gasping) by scanning the chest for rise and fall for at least 5 but no more than 10 seconds
- Feel for a pulse for 5 to 10 seconds
- Try to perform the pulse check simultaneously with the breathing check within 10 seconds to minimize delaying CPR
- If you find a pulse, start rescue breathing at 1 breath every 6 seconds. Check the pulse about every 2 minutes.
- If you find no breathing or only gasping, and no pulse within 10 seconds, start CPR beginning with chest compressions



Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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BLS ASSESSMENT

Step 4 Defibrillate

- If pulse is not felt check for a shockable rhythm with an AED/defibrillator as soon as it arrives
- Provide shocks as indicated
- Follow each shock immediately with CPR beginning with compressions

In some cases BLS will result in ROSC but sometimes cardiac arrest persists, requiring you to continue with more advanced invasive measures. This is when you should follow the Primary Assessment and Secondary Assessment

PREVIOUS 1 2 3 4 5

KNEW DON'T KNOW DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

15% PROGRESS: HeartCode ACLS 2025

4h 2m left

Ahmed Othman A

Coach

What is the [illegible] amount of time you should simultaneously perform the pulse and breathing checks?

You got it!

Your Answer 10 seconds

Learn more here:

BLS Assessment

Know it

CHALLENGE US NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content a oud.

Autoplay On

FILL IN THE MISSING WORDS

The BLS Assessment is a systematic approach to BLS for trained healthcare providers. This approach assess

I KNOW IT | I THINK I KNOW IT | NOT SURE | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

16% PROGRESS HeartCode ACLS 2025

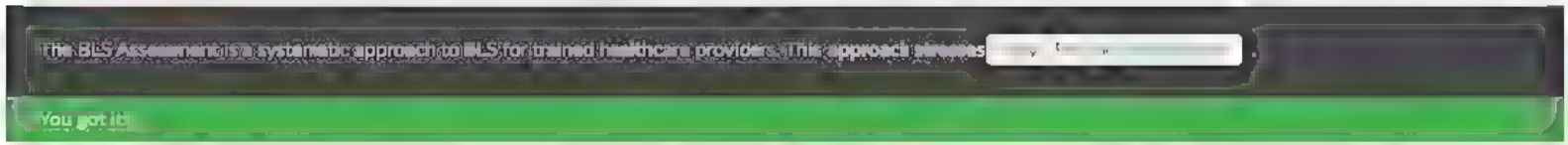
~4h 2m left

Ahmed Othman A

Coach

Learn more here:

BLS Assessment



I Know It

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud

Autoplay On

PRIMARY ASSESSMENT

After completing all of the appropriate steps of the BLS Assessment, progress to the Primary Assessment for more advanced assessment and treatment

If the patient is conscious, go directly to the Primary Assessment and then the Secondary Assessment

You can easily remember the steps of the Primary Assessment by thinking **A-B-C-D-E**. Keep in mind that, although these steps are listed in progressive order, the resuscitation team often performs them simultaneously

1 2 3 4 5 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

PRIMARY ASSESSMENT

A Airway

For **unconscious patients**, healthcare providers should **maintain a patent airway** and consider inserting an advanced airway device. Regardless of the device chosen, the resuscitation team must **ensure proper placement** and **use quantitative waveform capnography to monitor effectiveness**. Conscious patients can often maintain the **integrity of their own airway**, and healthcare providers need only ensure patency by providing suctioning if needed.

Key questions to ask:

- Is the patient's airway patent?
- Is an advanced airway indicated?
- Have you confirmed proper placement of the airway device?
- Is the tube secured, and are you reconfirming placement frequently and with every transition?

Maintain an open airway in unconscious patients by using a head tilt–chin lift, an oropharyngeal airway, or a nasopharyngeal airway.

Use advanced airway management if needed: for example, a laryngeal mask airway, a laryngeal tube, an esophageal-tracheal tube, or an endotracheal tube. Weigh the benefits of placing an advanced airway against the adverse effects of interrupting chest compressions. If bag-mask ventilation is adequate, you may defer inserting an advanced airway until the patient does not respond to initial CPR and defibrillation or until ROSC. Advanced airway devices such as a laryngeal mask airway, a laryngeal tube, or an esophageal-tracheal tube can be placed while chest compressions continue.

PREVIOUS 1 2 3 4 5 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

PRIMARY ASSESSMENT

- Have you confirmed proper placement of the airway device?
- Is the tube secured, and are you reconfirming placement frequently and with every transition?

Maintain an open airway in unconscious patients by using a head tilt–chin lift, an oropharyngeal airway, or a nasopharyngeal airway.

Use **advanced airway management if needed**, for example, a laryngeal mask airway, a laryngeal tube, an esophageal-tracheal tube, or an endotracheal tube. Weigh the benefits of placing an advanced airway against the adverse effects of interrupting chest compressions. If bag-mask ventilation is adequate, you may defer inserting an advanced airway until the patient does not respond to initial CPR and defibrillation or until ROSC. Advanced airway devices such as a laryngeal mask airway, a laryngeal tube, or an esophageal-tracheal tube can be placed while chest compressions continue.

If using advanced airway devices

- Confirm the proper integration of CPR and ventilation.
- Confirm the proper placement of advanced airway devices by physical examination and quantitative waveform capnography
- Secure the device to prevent dislodgment
- Monitor airway placement, effectiveness of CPR, and ROSC with continuous quantitative waveform capnography

Self-Assessment

Adjust your competence estimate to the right to focus on the questions.

ADVANCED BEGINNER

Coach

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Autoplay On

PRIMARY ASSESSMENT

B Breath ng

If the patient s not n cardiac arrest, hea thcare providers should **assist ventilation as needed once every 6 seconds** f the patient does not require assisted ventilation healthcare providers can support the patient by administering oxygen as needed

Key questions to ask:

- Are vent lat on and oxygenation adequate?
- Are quantitative waveform capnography and oxyhemoglobin saturation mon tored?

Give supp.emental oxygen when nd cated **For cardiac arrest patients administer 100% oxygen**. For others, ad,ust the oxygen administration to ach eve oxygen saturation of **95% to 98% by pulse oximetry** (90% for ACS and 92% to 98% for post-cardiac arrest care).

PREVIOUS 1 2 3 4 5 NEXT

CHALLENGE US

Self-Assessment

Ad,ust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER

Coach

Push ▶ for reading content a oud

Autoplay On

PRIMARY ASSESSMENT

C Circulation

In th s step, you shou d **attach ECG leads and establish intravenous (IV) or intraosseous (IO) access**. Give **appropriate drugs** to manage abnorma rhythms and **assess for perfusion issues**. You are collecting a wide range of nformation nc uding blood pressure, heart rate, and cardiac rhythm. Add tiona data, such as temperature and glucose eve s, may further refine the initial interventions needed.

Key questions to ask:

- Are chest compressions effective?
- What is the cardiac rhythm?
- s defibrillation or cardiovers on nd cated?
- Has intravenous ,IV), intraosseous ,IO access been estab shed?
- s ROSC present?
- s the patient with a pulse unstable?
- Are medications needed for rhythm or b ood pressure?
- Does the patient need volume fluid for resusc tation?

Circulation Monitoring

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER

CHALLENGE US

Coach

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Autoplay On

PRIMARY ASSESSMENT

Circulation Monitoring

Monitor CPR quality with **quantitative waveform capnography.** Details

If **intra-arterial pressure monitoring** is availab e, strive to **optimize blood pressure**. Details

Circulation Interventions

- Attach mon tor/defibri ator for arrhythm as or cardiac arrest rhythms.
  - Ventricular fibr ation (VF)
  - Pulseless ventricular tachycardia (pVT)
  - Asystole
  - Pulse ess electrical activity (PEA)
- Provide defibrillation/card overs on
- Establis V/ O access
- Give appropriate drugs to manage rhythm and blood pressure
- Give IV/IO fluids if needed
- Check glucose and temperature
- Check perfusion issues

PREVIOUS 1 2 3 4 5 NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEG NNER

CHALLENGE US

16% PROGRESS

Ahmed Othman

Coach

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Autoplay On

PRIMARY ASSESSMENT

- Are medications needed for rhythm or blood pressure?
- Does the patient need volume (fluid) for resuscitation?

Circulation Monitoring

Continuous quantitative waveform capnography provides an **indirect measure of cardiac output during chest compressions** because the amount of carbon dioxide exhaled is associated with the amount of blood that passes through the lungs

If the partial pressure of CO_2 in exhaled air at the end of the exhalation phase or $PETCO_2$ is less than 10 mm Hg, attempt to improve CPR quality

Waveform capnography should be as high as possible with improved CPR quality. An $ETCO_2$ less than 10 mm Hg during chest compressions rarely results in ROSC. Conversely, a sudden increase in $PETCO_2$ to more than 25 mm Hg may indicate ROSC

CLOSE

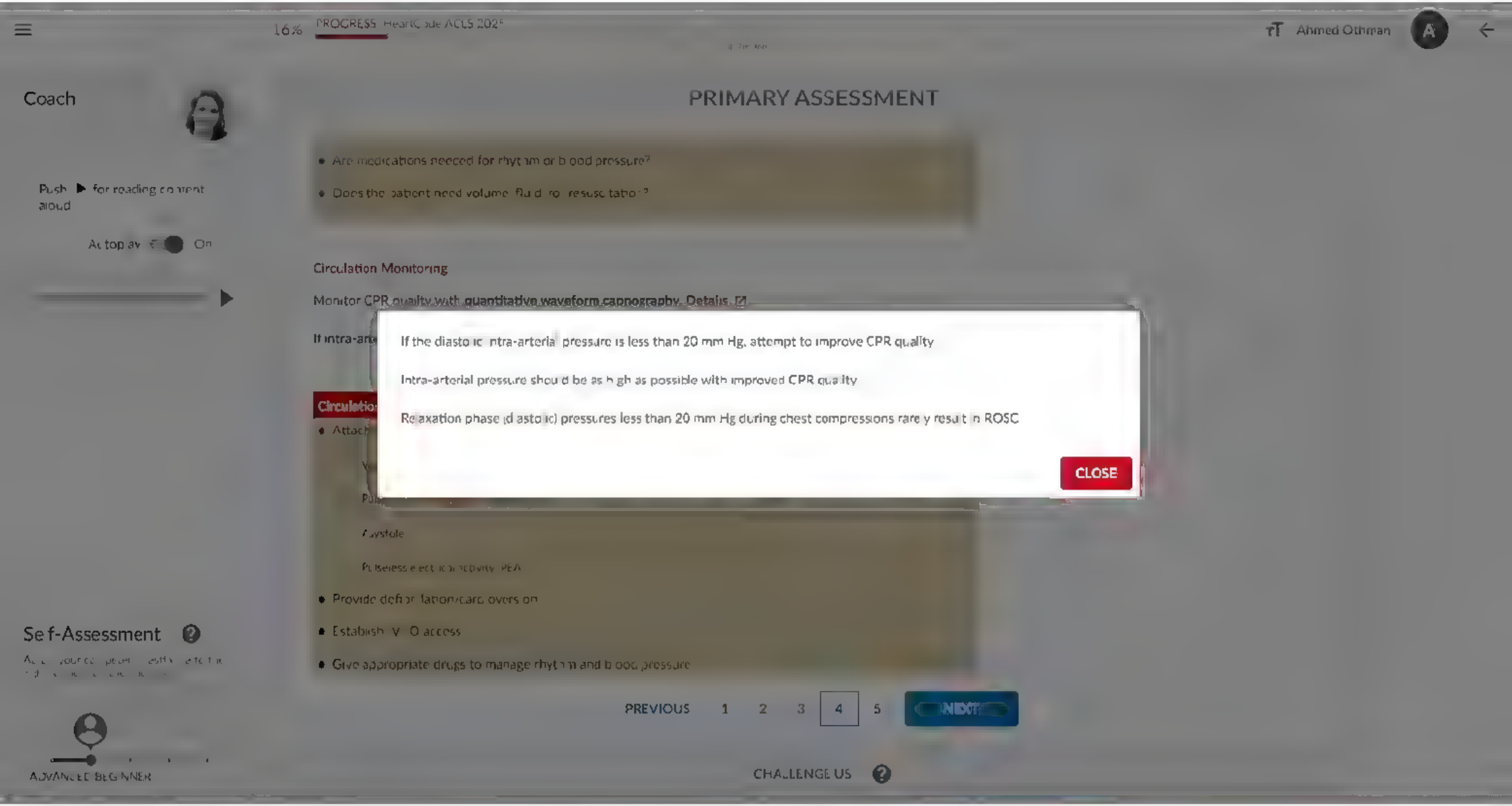
- Asystole
- Pulseless electrical activity (PEA)
- Provide defibrillation cardioversion
- Establish IV/IO access
- Give appropriate drugs to manage rhythm and blood pressure

Self-Assessment

PREVIOUS 1 2 3 4 5 NEXT

ADVANCED BEGINNER

CHALLENGE 05


16%
Ahmed Othman
Coach
PRIMARY ASSESSMENT
Are medications needed for rhythm or blood pressure?
Does the patient need volume fluid for resuscitation?
Circulation Monitoring
Monitor CPR quality with quantitative waveform capnography. Details
If the diastolic intra-arterial pressure is less than 20 mm Hg, attempt to improve CPR quality
Intra-arterial pressure should be as high as possible with improved CPR quality
Relaxation phase (diastolic) pressures less than 20 mm Hg during chest compressions rarely result in ROSC
CLOSE
Provide defibrillation/cardioversion
Establish IV/IO access
Give appropriate drugs to manage rhythm and blood pressure
PREVIOUS
1
2
3
4
5
Self-Assessment
ADVANCED BEGINNER
CHALLENGE US

Coach

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Autoplay On

PRIMARY ASSESSMENT

D Disability

This involves checking for neurological function. Quickly assess for responsiveness, levels of consciousness, and pupil dilation. A quick tool that can be used to evaluate neurological status is AVPU: Alert, Voice, Painful, and Unresponsive.

E Exposure

Remove clothing to perform a physical examination, looking for obvious signs of trauma, bleeding, burns, bruising, markings, or medical alert bracelets.

PREVIOUS 1 2 3 4 5

I KNEW | I DON'T KNOW | I DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

- While performing the BLS Assessment, you initiate high-quality CPR and useful ventilation with a bag-mask device.
- The AED does not recommend a shock.

Which action in the Primary Assessment should you perform first?

CHOOSE THE CORRECT ANSWER

- ✓ Determine if the patient's airway is patent
- Perform fluid resuscitation
- Assess the patient's oxygenation status
- Attach a quantitative waveform capnography device

I KNOW IT | I DON'T KNOW IT | GUESS | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions.

ADVANCED BEGINNER

Coach

While performing the BLS Assessment, you initiate high-quality CPR and assist ventilation with a bag-mask device.

The AED does not recommend a shock.

Which action in the Primary Assessment should you perform first?

You got it.

Learn more here:

Primary Assessment

Your Answer: Determine if the patient's airway is patent

Know it

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content a oud

Autoplay On

- The initial assessment reveals a conscious patient.
- The patient's airway is patent, and an advanced airway is not indicated.

Which action in the Primary Assessment should you perform next?

Not there yet...

Your Answer | Check for the presence of a pulse

Correct Answer | Administer oxygen as needed

Think So

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud

Autoplay On

SECONDARY ASSESSMENT

The secondary assessment involves the differential diagnosis. This involves obtaining a focused medical history and searching for and treating reversible causes (H's and T's).

Considering the memory aid SAMPLE. This consists of signs and symptoms, allergies, medications, past medical history, last meal consumed and events. The answers to these questions can help you quickly rule in or rule out suspected diagnoses.

S

- Breathing difficulty
- Tachypnea and tachycardia
- Fever and headache
- Abdominal pain
- Bleeding

A

- Medications, allergies, foods, latex
- Associated reactions

M

- Patient medications, including over-the-counter vitamins, inhalers, and herbal supplements
- Last dose and time of recent medications
- Medications that can be found in the patient's home

1 2 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud.

Autoplay On

SECONDARY ASSESSMENT

M
- Patient medications, including over-the-counter vitamins, inhalers, and herbal supplements
- Last dose and time of recent medications
- Medications that can be found in the patient's home

P
- Health history (eg, previous illnesses, hospitalizations)
- Family health history (in cases of ACS or stroke)
- Significant underlying medical problems
- Past surgeries
- Immunization status

L
- Time and nature of last intake of liquid or food

E
- Events leading to current illness or injury (eg, onset sudden or gradual, type of injury)
- Hazards at scene
- Treatment during interval from onset of disease or injury until evaluation
- Estimated time of onset (if out of hospital)

1 2 NEXT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

Push ▶ for reading content aloud

Autoplay On

SECONDARY ASSESSMENT

Next look for and treat the underlying cause by considering the H's and T's, to ensure you are not overlooking a dangerous or likely possibility

H's

- **Hypovolemia** is low blood volume
- **Hypoxia** occurs when inadequate oxygen is reaching the body's tissues
- **Hydrogen ion (acidosis)** is the accumulation of acid and hydrogen ions in the blood and body tissues
- **Hypo-/hyperkalemia** is an abnormally high or low concentration of potassium ions in the blood
- **Hypothermia** is when the body temperature drops below 95°F, or 35°C. Hypothermia is a potentially reversible cause of cardiac arrest and other emergency cardiopulmonary conditions

T's

- **Tension pneumothorax** results from an abnormal accumulation of air in the pleural space.
- **Tamponade (cardiac)** is a conditon caused by an accumulation of fluid between the heart and the pericardium.
- **Toxins** may be best uncovered by a focused history
- **Thrombosis (pulmonary)** or **pulmonary embolism** is a blood clot from a large vein that breaks off and travels to the pulmonary artery where it becomes lodged

KNEW IT NOT SURE DON'T GET IT

CHALLENGE US

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

ADVANCED BEGINNER

Coach

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Autoplay On

SECONDARY ASSESSMENT

Hs

- **Hypovolemia** is low blood volume.
- **Hypoxia** occurs when inadequate oxygen is reaching the body's tissues.
- **Hydrogen ion (acidosis)** is the accumulation of acid and hydrogen ions in the blood and body tissues.
- **Hypo-/hyperkalemia** is an abnormally high or low concentration of potassium ions in the blood.
- **Hypothermia** is when the body temperature drops below 95°F, or 35°C. Hypothermia is a potentially reversible cause of cardiac arrest and other emergency cardiopulmonary conditions.

Ts

- **Tension pneumothorax** results from an abnormal accumulation of air in the pleural space.
- **Tamponade (cardiac)** is a condition caused by an accumulation of fluid between the heart and the pericardium.
- **Toxins** may be best uncovered by a focused history.
- **Thrombosis (pulmonary)**, or **pulmonary embolism**, is a blood clot from a large vein that breaks off and travels to the pulmonary artery where it becomes lodged.
- **Thrombosis (coronary)** is a blood clot that forms within a blood vessel of the coronary system.

PREVIOUS 1 2

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

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I KNEW | GOT IT NOW | THINK I GOT IT | I DON'T GET IT

CHALLENGE US

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Which action is part of the **Secondary Assessment** of a **conscious patient**?

CHOOSE THE CORRECT ANSWER

Attach a monitor/defibrillator

Give IV/IO fluids if needed

✓ Formulate a differential diagnosis

Determine the patient's level of consciousness

I KNOW IT | THINK I KNOW IT | NOT SURE | NO IDEA

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

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Learn more here:

Secondary Assessment

Which action is part of the **Secondary Assessment** of a conscious patient?

You got it!

Your Answer | **Formulate a differential diagnosis**

I Know It

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

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Autoplay On

Answer the following questions regarding the **reversible causes of cardiac arrest**.

1 — 2

Which of the following are the "H" causes of reversible cardiac arrest?

You got it!

- Your Answer | **Hypovolemia**
- Your Answer | **Hypoxia**
- Your Answer | **Acidosis**
- Your Answer | **Hypothermia**
- Your Answer | **Hyperkalemia/Hypokalemia**

I Know It

CHALLENGE US

NEXT

Self-Assessment

Adjust your competence estimate to the right to focus on the questions

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